ABSTRACT OF THE

Lettsomian Lectures

ON THE

SURGICAL TREATMENT OF TRIGEMINAL NEURALGIA.

By WILLIAM ROSE, F.R.C.S.,

PROFESSOR OF SURGERY IN KING'S COLLEGE, AND SURGEON TO KING'S COLLEGE HOSPITAL.

LECTURE I.

AFTER a few introductory remarks as to the difficulty of selecting a subject which should touch on new ground, Mr. Rose considered that his recent experiences in the treatment of intractable facial tic might be interesting to the Fellows of the Society. The scanty details as to the morbid anatomy, and the unsatisfactory character of the statistical records, from the patients not having been kept under observation long enough, were noted, and a hope expressed that future investigations would be carried out more systematically. The temporary nature of the relief given by the usual operative means was alluded to, and the want of some more radical measure insisted on. He submitted that if the Gasserian ganglion could be removed without risk to life, it held out a better prospect of permanent relief than any other proceeding. Conrads' statistics were then quoted to show the frequency of this form of neuralgia.

Before dealing with the surgical treatment of this disease the lecturer thought it would not be out of place to allude briefly to the causes which produce this condition, and to the symptoms associated therewith, inasmuch as an accurate estimate of these must be formed as a basis of scientific treatment. The following was suggested as a convenient etiological classification:—1. Intracranial causes—cerebral, radical, ganglionic. 2. Cranial. 3. Extracranial or peripheral. 4. Toxic—e.g., mercury, lead, or malaria. 5. Reflex. 6. Functional.

Under *cerebral* causes were mentioned sclerosis, aneurysms, and tumours interfering with the deep origins of the nerve in the pons and medulla. Dr. Putnam's able paper[1] was referred to, from which the following predisposing factors of central disease were quoted:—(1) The large extent of the deep origins, and hence the existence of wide connexions with other nerve tracks rendering this nerve more liable to be affected at its origin by morbid influences from many extraneous sources independent of its own area of distribution, and (2) the elaborate and delicate organisation of the centres, as evidenced by the exquisite sensibility of the parts connected with it—e.g., the lips, tongue, and eyes. Dr. Putnam also maintained that inflammatory changes may occur in a nerve as a result of frequent and severe nerve-storms passing along it.

Radical causes.—Any inflammatory affection of the dural sheath lining the fibrous canal through which the root of the nerve passes on its way from the pons to the ganglion was suggested as a possible origin of the disease.

Ganglionic causes.—Chronic interstitial inflammatory changes pressing on the nerve cells were present in one of the author's cases, and such may probably be a starting point of the neuralgic condition. Carnochan's opinion as to the function of Meckel's ganglion was mentioned.

Under *cranial* causes were included all the morbid processes occurring at the base of the skull and the foramina in it through which the nerves pass. Bony and malignant tumours, callus from fractures, and syphilitic periostitis were alluded to, and some observations made by Mr. Carless on the shape and sign of the foramen ovale were introduced to illustrate the fact that the foramina are smaller in females than in males; that the foramina are inconstant in lumen and often asymmetrical, and that in form they may vary from nearly a circle, seven or eight millimetres in diameter, to a narrow slit not more than two millimetres broad. They were stated not to vary at all regularly with the age of the patient, but more with the shape and size of the cranium.

The *peripheral* causes were next dealt with, and special attention was devoted to three conditions: 1. Dental caries was a fruitful source of the trouble, and it was alleged that neuralgia might be started by a tooth which is itself not painful and might be increased by its extraction. The filling-up of the alveoli of edentulous jaws with bone, which compresses the nerve filaments, as described by Gross, was stated to have been relieved by the removal of wedge-shaped pieces of bone or by drilling into them. 2. The condition of the peripheral bony canals had long been recognised as a potent factor in the production of the disease, especially in cases where the infra-orbital and inferior dental nerves are affected. The non-occurrence of neuralgia in children when these canals are widest was mentioned, also the fact that a contraction of their lumen had been met with on the operating table. Unfortunately, though the cause might be removed the effect remained, and often tended to spread upward. 3. Exposure to cold or damp was also noted as being associated closely with the production of the disease, and presumably the pathological condition present was a rheumatic perineuritis producing pressure upon the nervi nervorum. Retention of secretion in the frontal sinuses (Horner and Seelig-Müller), disease of the ear (Tröltsch and Moss), implication of the nerves in cicatrices, impaction of foreign bodies, &c., were also included in this division.

The *toxic*, *reflex*, and *functional* causes were summarily dismissed, but importance was attached to a morbid neurotic temperament, either inherited or acquired; to anæmia, and to worry as predisposing, if not exciting, causes of the pain.

A marked distinction was drawn between the simple forms of the disease and the severe variety known as tic-douloureux or epileptiform neuralgia. The latter term is a modification of the name suggested by Trousseau—viz., "tic epileptiforme," and the similarity of the paroxysmal attack to an epileptic seizure was commented on. This severe variety is more common in the second and third divisions of the nerve than in the first, the infra-orbital and inferior dental branches being especially liable to it. The simple form would appear to more commonly affect the ophthalmic division, and it is now generally acknowledged that supra-orbital neuralgia is more closely associated with central neurosal conditions, such as migraine, &c., rather than with tic. The amenability of this form to quinine, and the frequent periodicity of the attacks, have suggested the term "brow-ague," so often applied to it, although there is no absolute evidence connecting it with malarial poisoning.

The pathological anatomy was next dealt with, and Professor Dana's recent paper in the *American Journal of Nervous and Mental Disease* (No. 1, 1891) commented on. This author maintains that although many causes of inveterate facial tic are due to definite local lesions—such as tumours, aneurysms, &c.,—yet the majority are due not even to a neuritis of the branches affected, but rather to an obliterative endarteritis of the vessels supplying the nerve.

The microscopical appearances of the excised nerves were alluded to, the observations of Mr. Horsley,[2] Dr. Putnam,[2] and Prof. Schweinitz[4] collaborated. The axis cylinders are found swollen or shrunken, and sometimes have disappeared entirely; they are usually difficult to stain with either logwood or carmine. The medullary substance often appears swollen, and the sections of the tubules are not clear and sharply defined, but consist of a confused mass of concentric rings. "The transverse section of nerve fibres might in places be not incorrectly compared to the interior aspect of a minute oyster-shell both in shape and by virtue of this peculiar concentric arrangement" (Schweinitz). The sheath of Schwann is crumpled up more or less, and its nuclei increased in numbers. The interstitial connective tissue (or endoneurium) is also increased in amount, especially around the bloodvessels. These appearances are similar to those seen in a case of chronic neuritis, and that of an ascending character, the changes being often more marked peripherally than at the central end. Putnam notes the fact that all the fibres in a nerve are not invariably affected in the same way, and often healthy and diseased tubules may be seen in the same section lying side by side. The perineurium is also in some cases thickened, and some observers have noticed small nerve bundles lying in this tissue with the fibres very much changed. These are probably the remains of the "nervi nervorum" described by the late Mr. John Marshall,

[1] Boston Medical and Surgical Journal, August, 1891.

[2] Trans. Odont. Soc., 1887, xix., p. 270.

[3] Vide paper by Ewing Mears, Transactions American Surgical Association, 1884, ii., p. 469.

[4] Boston Medical and Surgical Journal, Aug. 13th and 20th, 1891.

the compression of which may possibly be one of the chief factors in the production of the pain.

Turning to the clinical aspect of the disease, the leading symptoms of a typical case were given as follows: The patient, usually a female, and probably in the middle period of life, complains of more or less periodic attacks of severe unilateral cumulative pain, darting along special nerve tracks, and referred particularly to the points of exit of the peripheral branches upon the face, especially to those of the second and third divisions. The attacks, after reaching a certain pitch of severity, suddenly subside, leaving the patient intervals of freedom, which, as the complaint advances, become proportionately diminished. As these intervals become shortened, so does the general tone of the nervous system become sympathetically lowered from anxious apprehension and dread of the return of the pain. As a severe paroxysm of pain frequently follows any touching of the affected parts of the face, patients guard them most jealously; washing even is avoided; and the lecturer had seen many such cases where the side of the face was distinctly dirty from this cause. Similarly the tongue may become thickly covered with fur on the affected side in consequence mainly of the patient using only the opposite side of the mouth in mastication, but possibly also to trophic disturbance. Stimuli reaching the centres from other sources, such as the mere slamming of a door, any sudden noise, or a draught of air, will suffice in like manner to precipitate an attack, so that the patients live in a morbid state of dread. In the midst of speaking, laughing, coughing, and particularly chewing, a paroxysm may occur with lightning-like rapidity, causing a sudden cessation of any of these acts. The special character of the pain must be carefully noted as being entirely different from those migratory or wandering pains which often attack these patients in the intervals between the paroxysms of true tic, and which might mislead the medical attendant in arriving at a decision as to the exact seat of the lesion. Those who have long suffered from this disease look upon them as trifling in comparison with the agony of which they are so frequently the precursors. Abnormal conditions of the motor, vaso-motor, and secretory apparatus also form part of a typically severe attack. Spasmodic or paralytic motor symptoms may be seen, more commonly the former; in neuralgia of the third division, for example, the muscles of the jaw, face, and even those rotating the head, may be spasmodically contracted. There is often an abundant flow of mucus from the nose, as well as of saliva and tears accompanying the attack, whilst beads of perspiration often stand upon the affected side of the forehead and face. Again, vaso-motor paralysis is manifested in a reddening and heightened temperature of the side of the face, with swelling of the veins, and the conjunctiva may be similarly affected. As a result of this, in old long-standing cases, the lips may become thickened and tumefied from chronic inflammatory hyperplasia.

The *differential diagnosis* was discussed and the importance emphasised of ascertaining, if possible, the exact site of the lesion. The previous history and surroundings of the patient should be carefully investigated, special stress being laid on possible injuries to the soft and hard structures in any part of the area of distribution of the nerve. The teeth should be examined by a skilled dentist, and old stumps removed. In women the condition of the uterus and ovaries, and the regularity or not of the menstrual functions, should also be noted. But even if the case be due to some central lesion, the lecturer maintained that operative measures may be distinctly of value in relieving the pain, and he discussed Bell's and Wagner's theories to explain this occurrence.

After a passing allusion to the medical treatment, general and local, and to the use of hypnotism, the different means of dealing directly with the nerves surgically were described as follows:—

In reviewing generally the *operative treatment* of this disease, the first and simplest method employed, that of *neurotomy*, was suggested by Albinus and Galen, and first carried out on a branch of the fifth nerve by Schlichting and Maréchal about 150 years ago, but good results did not follow their efforts. It was performed more or less frequently up to 1840, and then for a decade or more seems to have fallen into disuse, if the silence of records is to be so interpreted. But in 1852, M. Roux of Paris recorded four cases of operation on the fifth nerve, since which time they have become numerous enough. The plan usually adopted was that of introducing subcutaneously or under the mucous membrane a fine tenotome and so dividing the nerve, whilst in a few cases the open method was employed. Transient relief followed in some instances, but not in all; and usually the neuralgic pain recurred at an early date with all its old severity. The cause of this is not far to seek, in that we now know how very readily divided nerves reunite, and even when a portion of a nerve trunk is entirely removed, regeneration of the destroyed portion is a matter of frequent experience. The scar itself, moreover, may become the exciting cause of the relapse and may require extirpation. To prevent this reunion of the nerve, *neurectomy* on a more extensive scale naturally suggested itself, and in this country it was performed for the first time by Abernethy in 1793. Even then insufficient portions of the nerve trunks were removed, seldom more than half an inch, so that the regenerative energy of the nerve soon bridged over the interval, and the pain recurred. Many other plans were suggested to obviate this. Thus, in 1822 Klein crushed and cauterised the central end; Middledorpff, Bardeleben, and Luikart divided the nerve with the galvano-cautery; Boyer cauterised the peripheral end; whilst Malgaigne split one or both ends longitudinally and turned them back in a loop manner, in other cases attempting to place a flap of soft tissue between the two ends. M. Péan more recently has recommended the old plan of removing the central end by cauterisation. The results of all these earlier operations, whether neurotomy or neurectomy, were not satisfactory, as the following statistics will show:—Otto Weber[5] collected 100 cases with only 18 cures. Wagner in 1869 recorded 135 cases (possibly including Weber's) and the results given were:—Cures after three years, 18; fatalities from sepsis, 6; in 1 case only, relief was experienced for less than a month; in 32 cases, it continued for months; in 20 cases from one to three years; in 24 the relief was temporary, but the after-history was not known. Dr. Fowler of Brooklyn[6] collected 83 cases recorded since Wagner's list was published; but the statistics are of comparatively little value, as so many of the patients were kept under observation for but a short time.

The regenerative energy of the nerve was shown not to be the only cause of the relapses. Attention was directed to the important fact that so many of the branches of the nerve passed through bony canals, and were thus more directly exposed to pressure, whilst it was also noted that during the period of life when these bony canals were relatively widest—i.e., among children—neuralgia is practically unknown. The suggestion naturally followed that the nerves should always be divided on the proximal side of the canals.

As to the extent of the operation of neurectomy, it is eminently desirable to divide the nerve as high as possible, in order to get above any undiscovered lesion; whilst it is also advisable to remove as much of the nerve peripherally as is practicable in the affected locality, in order to give the nerve centre as much rest as possible, and prevent stimuli from reaching the brain along anastomosing trunks. Mr. Rose continued: "The removal of a large extent of the nerve trunk was first suggested, I believe, by Professor Braun as a means of dealing with the infra-orbital nerve; he advised its division at the foramen rotundum, and also at the infra-orbital foramen, removing the whole of the intervening portion by traction. M. Beau of Toulon recommended a similar process to be adopted in the treatment of the inferior dental branch, dividing it at its entrance to the dental canal, and at its exit from the mental foramen, and removing the part between. But it was Professor Thiersch,[7] who carried out this plan of *nerve-extraction* more thoroughly, and extended the operation to all the divisions of the trigeminal. He frees the nerve from its connexions at some spot easily accessible, and then by a process of torsion with specially constructed forceps he is able to draw out a considerable length of it both distally and proximally, tearing the central end away and cutting the peripheral. By this means very large portions of the nerve can be removed, and so, it is hoped, recurrence of the neuralgia more effectually prevented. He recorded twenty-eight cases of the operation in 1889, performed on seventeen different patients, having operated eleven times on the infra-orbital,

[5] Pitha and Billroth's Handbuch, Bd. iii., Ab. i., Lief. i., p. 163.
[6] Annals of Surgery (St. Louis), 1886, iii., p. 209.
[7] Deutsche Gesell. f. Chirurg., 1889, S. 44.

five times on the supra-orbital, four times on the inferior dental, thrice on the lingual, and once on the mental. Five or six centimetres can be removed from the supra-orbital; and he showed two specimens of the lingual nerve that had been extracted from the cadaver, 9·5 and 15 centimetres in length respectively. Of the second specimen 6 centimetres were central, and 9 peripheral, measured from the angle of the jaw beneath which the nerve was grasped; and he calculated that it was torn through only one or two centimetres from the Gasserian ganglion. As to his results on the living subject, a marked degree of success attended his practice. Only one case had relapsed, and that in a very hysterical subject; several of the operations had been performed six years previously. Paresis of the facial muscles had occurred temporarily in a few instances, and this is attributed to damage to the facial nerve terminals through the avulsion of the sensory twigs distributed with them.

"The value of *nerve stretching* as a means of treatment was accidentally discovered by Nussbaum of Munich in 1860, from the disappearance of a tetanic spasm of the arm after an accidental stretching of the ulnar nerve during resection of the elbow. In 1861 Hauser similarly by chance cured a contraction of the fourth and fifth fingers; and in 1869 Billroth[8] unintentionally cured a case of sciatica by the traction made during a thorough examination of the sciatic nerve. But it was Nussbaum who reduced this plan of treatment to method, and first deliberately stretched the brachial plexus in 1874,[9] whilst Vogt in 1876 appears to have been the first to use it in trigeminal neuralgia. Since that date the operation has been largely employed, and its value has been pretty accurately ascertained in the treatment of the many conditions to which it has been applied. Its use in cases of neuralgia has not been very satisfactory, and especially is this so in facial tic. Statistics are not of much value in the investigation of this subject, inasmuch as the cases were kept under observation for so short a time. Hahn of Berlin records eleven cases, however, of which eight relapsed after six or eight months, two were utter failures, and only one case was really improved, although not cured, and in this a portion of the nerve was excised after being stretched. Lagrange gives somewhat similar unsatisfactory accounts of the operation of stretching the supra-orbital nerve; out of fifteen cases there was but one known cure after three years, and five were quite unsuccessful; in one there was but temporary relief, and the subsequent histories of the other cases is not recorded. Of six neurectomies of the same nerve, four were successful. The same author contrasts neurectomy with nerve stretching of the infra-orbital nerve; and whilst with the former 25·67 per cent. of the cases remained free from pain after three years, only 12·57 per cent. of those in which the nerve was stretched were similarly free at the same time. Practically it is now admitted by almost all surgeons that nerve stretching should be retained as a means of dealing with neuralgia of mixed nerves only, and undoubtedly it is beneficial in some such cases. But with the fifth nerve, which is almost entirely sensory, no permanent relief can be expected from the operation, and neurectomy is infinitely to be preferred. Probably, however, in all cases of neurectomy, a certain amount of stretching of both central and peripheral ends accompanies the manipulations necessary to free the trunks, and it is a perfectly open question as to whether or not such traction has any beneficial effect or otherwise on the course of the disease. That central changes can result is now a fact tolerably well established in those instances where the nerves pass directly through short, straight canals to the central organ. Thus Dr. Pauline Tarnowski, in the *Archives de Neurologie* (May and July, 1885), has reported the results of experiments made by him on rabbits. The sciatic nerves were stretched, and the spinal cords carefully examined at varying intervals of time. If slight traction alone was employed—e.g., 500 grammes—the only change found was a transient hyperæmia which soon passed away. But when the force reached four or five kilogrammes more definite changes occurred, unnecessary to particularise here, beyond stating that in the grey matter hæmorrhages and inflammatory exudations were seen soon after the injury, and later on sclerosis with atrophy of the nerve cells, such changes being always more marked in the posterior than in the anterior cornua. It is quite probable that similar effects may be produced in the Gasserian ganglion by stretching the branches of the third division, but evidently sufficient curative effect is not thereby established.

"One other plan of treatment which has been suggested must be alluded to—viz., *ligature of the carotid artery*. It was originally recommended and practised by Trousseau, and up to the present time, so far as I can ascertain, but eighteen cases have been thus treated, and the results as given by Dr. Fowler have been as follows:—In four cases there was relief for over three years, in three for fifteen months, in four for one year, in one case there was only partial relief, and in two cases no relief. One case was fatal. The longest period of relief was eleven years, but it must be noted that some of the reported cures had also been treated by nerve stretching and excision. Roser is stated by Madelung[10] to have tied the external carotid for tic thrice, with one cure. Of this plan I have had no experience, and, indeed, have heard of no cases in which it has been recently tried; but one cannot help being struck by the above results, especially in connexion with the theory of obliterative endarteritis, alluded to earlier in this lecture propounded by Professor Dana. The figures quoted indicate a measure of success which is certainly somewhat greater than that usually attending operations directed to the nerves themselves. The mortality of the operation is a serious objection to it, for whilst it will be less than when the artery is tied for aneurysms &c., Hüter calculates it is about 5 per cent. in these cases, and such a fact would exclude it as a means of treatment, except as a last resort. Moreover, even if not fatal, the possible effect upon the cerebral hemispheres must not be lost sight of in advising such a plan of treatment. That death has occurred from neurectomy is an undoubted fact, but this is usually explained by septic contamination of the wound which can be avoided, and I am thankful to state that I have not yet lost a case in any of my nerve operations. Should, however, a recurrence of the pain occur after dealing with the Gasserian ganglion, this operation of carotid ligature can still be resorted to."

[8] Archiv. f. Klin Chirurg., xiii., S. 379.
[9] Deutsche Zeits. f. Chirurg., 1874.

[10] Archiv f. Klin. Chir., xvii.

Clinical Lectures
ON
STRICTURE OF THE ŒSOPHAGUS,
WITH FOURTEEN ILLUSTRATIVE CASES, IN FOUR OF WHICH GASTROSTOMY WAS SUCCESSFULLY PERFORMED.

By DAVID NEWMAN, M.D.,
SURGEON TO THE DEPARTMENT FOR DISEASES OF THE THROAT AND NOSE AT THE ROYAL INFIRMARY, AND ASSISTANT SURGEON TO THE WESTERN INFIRMARY, GLASGOW.

LECTURE I. (*Concluded.*)

IN the second class of cases—viz., those where the growth has developed at the level of the bifurcation of the trachea, the supervention of dysphagia is generally, other conditions being equal, more gradual, but the special points in diagnosis are more difficult and various.

During the session we have had two cases of cancer at the level of the bifurcation of the trachea, and in both the development of difficulty in swallowing has been very gradual.

CASE 5. *Epithelioma of the œsophagus at the level of the bifurcation of the trachea; ulceration and rupture into the aorta; early symptoms, dysphagia, afterwards improving, dyspnœa, unequal inspiration in lungs; dull area posteriorly; death from hæmorrhage*.—G. A——, aged fifty-seven, was admitted into the Glasgow Royal Infirmary on March 25th, 1890, complaining of difficulty in swallowing, which, he said, commenced at the beginning of December, 1889. The first difficulty he experienced was in swallowing solid food, and this gradually increased until the middle of February in the present year, when he had to give up taking solids, and since that time his diet has been composed entirely of liquid food. During the act of swallowing he feels as if the difficulty in deglutition was caused by con-

striction at the level of the cricoid cartilage, but once the bolus has passed that point it occasions him no trouble, nor has he ever suffered from vomiting, cough, alteration in the voice, or pain. The pupils are equal, and the radial pulses are synchronous and equal in force, although somewhat weaker than normal. On passing a bougie (No. 16) a complete obstruction is met with, thirteen inches from the teeth, so that the stricture of the œsophagus may be said to be situated between the level of the supra-sternal notch and that of the bifurcation of the trachea. The largest size of bougie which passed through the stricture was a No. 6. On inquiring into the history of the case, no evidence could be found to show that the patient at any time suffered from syphilis, or sustained any traumatic injury to the œsophagus. On palpating the neck, nothing abnormal could be discovered in the line of the gullet or in the lymphatic glands. The larynx and trachea, as far as could be seen, were quite healthy, but on the least exertion the patient suffered from well-marked dyspnœa.

Physical examination of the chest showed the cardiac sounds to be pure, but feeble, and very irregular in rhythm; but there was no evidence of valvular disease. I did not examine the condition of the lungs critically, but posteriorly, in the interscapular space and to the left side of the spine, on a level with the fourth dorsal vertebra, and extending upwards and downwards from that point, there could be detected a distinct localised dulness occupying an area of about three or four square inches. Associated with this dulness on the left side, and about the same level as the obstruction in the œsophagus, there was evidence that air was not entering the left lung as freely as the right.

The patient was sent to Dr. Jas. Wallace Anderson, who kindly furnished me with the following report: "The upper left front of the thorax is slightly retracted, and there is a corresponding diminution of expansion; there also being a rather increased resonance on percussion over the same area The respiratory murmur over this area is less full and free than on the right side, at some points being hardly audible, at others of a whiffling, wavy character, but always faint. Posteriorly there is a mere suspicion of dulness in the upper left interscapular region. The respiratory murmur is distinctly fainter on the left side at the level of the third, fourth, and fifth dorsal vertebræ, and this diminution is continued one or two vertebræ lower on that side. The respiratory murmur over the left lung generally, though quite audible, is fainter than on the right side. There is no alteration in the vocal resonance, and no râles are heard anywhere. Cardiac phenomena and circulation generally are all perfectly natural."

At this time (April 1st) I was quite satisfied that the case was one of cancer of the œsophagus, but as there was no demand for surgical interference I transferred the patient to Dr. Wallace Anderson's care. During his residence in Dr. Anderson's ward he was kept at rest in bed, and as a result of treatment the symptoms became less pronounced, and the patient desired to be dismissed, and to return to his ordinary employment. Between April 1st and May 24th great improvement took place in his power of swallowing, and he gained in weight; so that when he was dismissed he was able to swallow not only fluids with freedom, but with a little care solid food as well. This improvement, with freedom from pain in swallowing, and the absence of vomiting, emaciation, or anæmia, led me to doubt the accuracy of my first diagnosis, and consider whether or not the dysphagia and impaired respiration on the left side might not be due to the presence of an aneurysm or solid tumour at the bifurcation of the trachea. A large-sized bougie now passed with ease. During the summer months the patient enjoyed moderately good health, and was able to swallow well both fluid and semi-fluid food; but in the autumn he again began to suffer from dysphagia, and he stated that since he was dismissed from the infirmary he suffered greatly from breathlessness. Patient was re-admitted into my ward on Oct. 7th. On passing a bougie (No. 12) it was found to be impossible to get it past thirteen inches from the teeth. At this time I went over the case very carefully again, and found the patient to be very much in the same condition as in April, except that, perhaps, he suffered more from dyspnœa, and I made a note in the journal to the effect that "although there are no positive signs of aneurysm, the situation of the obstruction, the dyspnœa, the impaired respiration on the left side, the area of dulness posteriorly, and the history of the case, raise the gravest suspicion of an aneurysm at the bifurcation of the trachea." On Oct. 18th the patient spat up a small quantity of dark blood, and for the first time complained of pain in the chest. On the 28th he again suffered from a deep-seated gnawing pain in the præcordial region, and when I saw him in the morning he was looking very ill. At 1 o'clock on the following morning the patient raised himself in bed suddenly, because of some distress referred to the chest. Immediately he sank back on the pillow and became blanched, his pulse at that time being small and thready, and a few minutes afterwards almost imperceptible, while he continued to breathe after the pulse had ceased.[1] The breathing was of a sighing nature. Between each respiration an interval of about half a minute occurred, which gradually increased until the breathing ceased altogether. This form of respiration lasted for about eight minutes.

Post-mortem examination revealed a malignant perforating ulcer of the œsophagus opening into the thoracic aorta, causing fatal hæmorrhage into the stomach and intestine. Dr. Lindsay Steven's report was as follows:— "The pericardium contains about three ounces of slightly blood-stained serum. The heart is very soft and flabby, and its external fat is much increased on the surface of the right ventricle. The aortic and pulmonary curtains are competent. There is slight atheroma a little above the free margins of the semilunar curtains, but the orifices of the coronary arteries are patent. The muscular tissue is very soft, but on the whole normal looking. On cutting into the septum, slight yellowishness of the fibres is observed. The lungs, trachea, and gullet are removed together. The left lung is pretty generally and moderately firmly adherent, the pleura in this situation being of cartilaginous hardness, and perhaps even slightly calcareous in parts. This very firm adhesion on the left side extends upwards as far as the fifth or sixth dorsal vertebra, but does not extend round towards the front. After the thoracic viscera have been removed, a probe is passed into the gullet from above, and its further progress downwards is completely arrested at the level of the bifurcation of the trachea. On passing the probe from the gastric end of the gullet, it passes through the entire length of the tube without any difficulty. The trachea is then opened along its posterior wall, almost to the bifurcation, but nothing abnormal is seen in it. The thoracic aorta is then laid open by cutting with the scissors from below upwards. Its internal coat presents tolerably healthy characters, but about an inch below the arch, and towards its posterior border, a circular opening with thin and somewhat ragged edges is found; this opening leads into a ragged cavity. The gullet is next laid open, and at the level of the obstruction just mentioned a large ragged ulcerated cavity containing débris of blood-clot and broken-down tissue is found in its wall. The upper margin of this excavation is raised and rather sharp, and presents the typical characters of the margin of a malignant ulcer. The cavity had evidently eaten its way into the aorta, and produced the aperture in that vessel described above. It should also be noted that the wall of the aorta, in the neighbourhood of the aperture, which is about the size of a threepenny-piece, is somewhat thinned." The other case is still in the ward.

CASE 6. *Scirrhus of the œsophagus at the level of the bifurcation of the trachea; very slow development of symptoms; gastrostomy successful.*—J. P——, aged fifty-six, admitted into the infirmary on Jan. 26th, 1891. On inquiring into the history of the case it appears that about six months ago he experienced slight difficulty in swallowing such articles of diet as butcher's meat, potatoes, and fish, but after a few attempts he was able to take a satisfactory meal. From being slight, the dysphagia steadily became more marked, so that within two months of the onset of the symptoms he found that after taking a few mouthfuls of food just mentioned his gullet got filled up, and he felt a choking sensation in his throat. Sometimes after repeated attempts at swallowing such food was ejected, but he found little difficulty in swallowing oatmeal cake, porridge, or snow-cake. Soft bread was swallowed with greater difficulty. Fluid food has always been swallowed with ease. Between June and December, 1890, the patient's weight was reduced 28 lb. When admitted into the hospital he was unable to swallow solid food, and had not eaten butcher's meat for some weeks. He was able, however, to take porridge, very finely minced meat, and bread

[1] The mode of death was observed and described by Dr. J. G. Gray, the resident assistant, who kept careful notes of the case.

when partaken of along with a good quantity of fluid. On passing an œsophageal bougie a firm stricture is discovered thirteen inches and a half from the teeth. From the situation of the stricture the question was at once raised whether the obstruction to swallowing was due to pressure from without, or to the presence of a growth within, the gullet. Careful physical examination of the chest made by Dr. Wallace Anderson and myself showed the thoracic organs to be quite normal. On auscultation of the œsophagus the act of deglutition was shown to be delayed and prolonged below the level of the third dorsal vertebra. There was no evidence of pouching of the œsophagus above the seat of obstruction, and on all occasions the quantity of food which regurgitated was never greater than what was last swallowed. At no time has the patient suffered pain, nor has blood been observed in the vomited matter. No history of injury or of syphilitic disease. During the time the patient was in the ward his general condition improved, and his weight was maintained at from 138 lb. to 139 lb. After being in the ward for two months he was dismissed, and requested to report himself once a fortnight. The patient returned to the Royal Infirmary, and gastrostomy was successfully performed in December, 1891. The patient was still able to swallow some food by the mouth.

When an obstruction to swallowing is detected at the level of the bifurcation of the trachea great care must be taken in the passage of bougies. While I was pathologist to the Royal Infirmary a case came under my observation where a very complete obstruction to swallowing was caused by an aneurysm of the aorta. In this case a physician, supposing the obstruction to be due to a tumour in the gullet, passed a bougie, and perforated, not only the œsophagus, but the wall of the aorta. The hæmorrhage which resulted caused the patient to be sent to the Royal Infirmary, and she died shortly after admission. This case made a very strong impression upon my mind, and, as a consequence, I have been most careful, when I discover an obstruction in the situation indicated, to avoid the passage of bougies unless it is very evident that there is no aneurysm or ulceration of the œsophagus.

In other cases difficulty in diagnosis is only experienced during the early stage of the case, when, with evidence of well-marked obstruction in the œsophagus, there are no physical signs directly pointing to aneurysm, and the only symptom which leads one to suspect serious disease of the aorta is paralysis of the left vocal cord. The value of this symptom in distinguishing between aneurysm and other causes of œsophageal obstruction is considerable, and in one of the cases seen this session it, to a great extent, prejudiced my mind in favour of aortic aneurysm as the cause of the dysphagia, even although no other symptoms pointed in the same way. And while it is quite true that, in a few exceptional cases, unilateral paralysis of the muscles supplied by the inferior laryngeal nerve may be caused by other conditions, I think it is of the utmost importance to bear in mind the undoubted fact that aneurysm of the transverse arch causes paralysis in the large majority of cases. Indeed, for practical purposes, it may be looked upon as the cause of paralysis in nineteen out of twenty cases. Undoubtedly cases have been recorded in which paralysis of the left recurrent laryngeal nerve has been the result of pressure by tumours in the œsophagus,[2] by enlarged bronchial glands, by pleuritic adhesions or fibroid induration of the apex of the left lung, by enlargement of the thyroid body, by great pericardial exudation, or by hypertrophy of the heart, leading by pressure or displacement to interference with the function of the nerve. The answer to the question, What is the cause of the paralysis? is usually easy, but in a few cases it is almost impossible to give a definite reply. In such cases, I would say, treat the case as one of aneurysm of the aorta. In my experience I have seen a considerable number of these at first obscure cases, and in the large majority they have proved in the end the accuracy of the statement I have just made.

The remaining class of cases—namely, those where the cancerous formation is situated at the lower end of the œsophagus has also been well illustrated in the three following cases.

CASE 7. *Epithelioma of lower end of œsophagus; history of sudden and steadily increasing dysphagia, culminating in almost complete obstruction; gastrostomy in two stages, followed by improvement in swallowing.*—W. H——, a labourer aged sixty-eight, was admitted into the Glasgow Royal Infirmary on Oct. 7th, 1890. He stated that about five weeks previous to admission he found one day that he was unable to swallow any solid food, although still able to swallow fluid and semi-fluid diet, some articles of food passing into the stomach more easily than others. As a rule, he experienced greater difficulty in swallowing hot than cold substances. Since the onset of these symptoms the dysphagia has steadily become worse, so that on admission the patient was greatly emaciated, his weight being reduced from 16 st. to 9 st. 10 lb. Now if fluid food be swallowed rapidly or in any quantity at a time, it is ejected with considerable force. There is no evidence of any pouching of the œsophagus above the seat of obstruction, the quantity of food vomited being only what has been last swallowed. On passing a full-sized bougie an obstruction is met with at the lower end of the œsophagus, which, on further examination, is found to permit the passage of a No. 10 œsophageal bougie. The patient stated that he had not suffered pain at any time, nor had he noticed any blood in the vomited matter. There was no history of injury or of syphilis. In respect to treatment little has to be said, the principal object being to introduce as much nourishment as possible in a concentrated form both by stomach and by nutrient, zyminised suppositories, and enemata.—Oct. 27th: Since admission the dysphagia has become steadily worse, so that now the patient is unable to swallow more than a few spoonfuls of fluid in the twenty-four hours. His weight is now 9 st. 1 lb. Gastrostomy was therefore performed, and the patient made a good recovery.[3]

CASE 8. *Epithelioma of the lower end of the œsophagus.*—J. F——, aged sixty-three, was shown to you at a demonstration last week. It appears that he first experienced a difficulty in taking solid food on Oct. 16th, 1890, and since that date the dysphagia has steadily increased, so that at present he is only able to take cold fluid food. During this period his weight diminished from 160 lb. to 130 lb., and he is now very anæmic and complains much of weakness. He had no morbid sensation in the throat, further than what is produced by a regurgitation of food, and sometimes the quantity which accumulates above the stricture amounts to more than one pint. When he attempts to swallow food rapidly, or in considerable quantity at a time, it is suddenly ejected with force, and not infrequently flows into the nostrils and larynx. He has never noticed any blood in the vomited matter. On introducing a full-sized bougie a stricture is detected at the lower end of the œsophagus, through which not even the smallest size of bougie can be passed. A careful physical examination of the chest fails to reveal any abnormality of the thoracic organs, further than that the action of the heart is feeble and the pulse numbers from 55 to 65 per minute. The patient was very anæmic and extremely weak from want of food, and he was advised to come into the hospital immediately, but this he failed to do. Since I examined him before you he has not been seen by me. He left the hospital, and probably we will see him no more.

CASE 9. *Acute carcinoma at the lower end of the œsophagus involving cardiac end of stomach; death from collapse.*—H. C——, aged seventy-one, was admitted into the hospital on Jan. 30th, 1891. Four months previous to admission the patient enjoyed perfect health, and was able to take his food without the slightest difficulty, but he noticed that his appetite was not so good as formerly, and this want of desire for food continued until the beginning of December, when he noticed for the first time difficulty in swallowing certain kinds of food, such as potatoes, bread, and butcher's meat. At the beginning of the month, the difficulty in deglutition was but slight; the dysphagia, however, steadily and rapidly increased, so that by the beginning of the year 1891 he was quite unable to swallow any solid food, and during the first fortnight of January he had taken nothing but a little sherry negus, and a few spoonfuls of beef-tea occasionally. His ordinary weight was 174 lb., but on admission he weighed only 141½ lb., and considering that his height is 5 ft. 11½ in. he looks very much emaciated. The pulse was firm and strong, and numbered 100 beats per minute. Little or no anæmia and no pain. On passing an œsophageal bougie a complete obstruction is met with close to the stomach. The stricture is so complete that it is with the greatest difficulty a No. 3 bougie was passed. As a consequence of the extremely weak condition of the patient, and

[2] In Case 4, before the patient left the ward there was complete paralysis of the left voca cord.

[3] Patient progressed favourably during the early summer, and the disease advanced very slowly; but, not receiving proper attention at home, he was found dead in bed from starvation in August.

his inability to take food by the mouth, he was fed by the rectum by means of beef peptonoids, peptonised beef-tea, and meat suppositories. Physical examination of the chest gave the following results:—The sounds of the heart are feeble, but there is no evidence of organic disease. Lungs normal. On palpating the abdomen the liver is found to project downwards beyond the costal cartilages for a distance of about one inch and a half, but on percussion the hepatic dulness is not found to be increased, and no nodules can be discovered. To the left of the liver the percussion is equivocal, and to the hand there is a marked resistance in the region of the stomach. Other abdominal organs normal. From the circumstance that the obstruction was situated so low down and was associated with marked resistance in the region of the stomach, which indicated that that organ was involved in the disease, I resolved not to operate, and the patient died in a few days from collapse.

The necropsy showed the thoracic organs to be normal. The liver was found to be displaced downwards and to the left, so that the left lobe overlapped and hid from view the contracted and empty stomach. At the lower end of the œsophagus, and along the neighbouring parts of the stomach, there was a large and widespread malignant ulcer, and the substance of the tumour involved the entire thickness of the stomach wall throughout an area of about four inches square, the greater part of which occupied the greater curvature. The tumour was an encephaloid carcinoma. There were no secondary formations.

With these cases before you it is at once obvious that not only the symptoms during life, but also the mode of death, are determined by the situation as well as by the precise nature of the malignant disease. It is clear I think that even a slow-growing epithelioma, if situated in the uppermost part of the œsophagus (as, for example, in Cases 3 and 4), will lead to death by starvation sooner than a more rapidly growing tumour situated at the level of the bifurcation of the trachea, or at the lower end of the œsophagus—e.g., Cases 5, 6, 7, and 8. Putting the question of situation of the tumour out of account for the moment, and, other conditions being equal, I think it may be safely said that adenoid cancer grows most rapidly, and, if not interfered with, causes death in the shortest time. Epithelioma is less acute, while scirrhous cancer, as shown in Cases 2 and 6, may remain practically stationary for a considerable period. As will be observed by reference to the cases I have demonstrated to you, the most prominent and constant symptom is dysphagia, which, as a rule, is at first slight in degree, but gradually and steadily progressive, at first occasional, but afterwards always present. In some cases, on the other hand, the difficulty in swallowing develops suddenly, and is from the beginning severe. This is experienced when the tumour is situated high up, but if the lower part of the gullet be attacked in not a few instances the patient only complains of severe difficulty in deglutition after the disease has been shown to exist for some considerable time. The usual experience is that solids, especially bread, potatoes, and butcher's meat, when taken in quantity, fail to pass a certain point in the gullet where the bolus may become lodged, or it may be found necessary to wash down each morsel by a draught of fluid, and even this may only succeed after careful mastication and repeated unsuccessful attempts. The patient may imagine that he has managed to swallow a moderately good meal, when, to his disgust, in a short time the greater part of it wells back into his mouth. This temporary retention of the food is possible only when the œsophagus has become pouched above the stricture. At first the quantity of food so retained is small in amount, and regurgitates almost immediately after it is swallowed; but as time advances the sac may become of considerable size, and capable of retaining large quantities of food. The regurgitation observed in such cases is very different from what is noticed in cases of spasmodic stricture or in ordinary vomiting of the stomach, in so far that the contents of the pouch simply well up, and resembles the vomiting resulting from cerebral disease more closely than any other form of sickness. When ulceration occurs sometimes the dysphagia is relieved to some extent, but at the same time the vomited matter is no longer simply the food as it was swallowed, but is usually mixed with disagreeable fetid muco-purulent blood-stained materials. About this stage of the disease the patient expectorates quantities of frothy mucus, and the secretions become more and more offensive. Alongside the development of dysphagia, it will be observed that the patient is rapidly emaciating and the blood becoming more and more deficient in colouring matter and in blood corpuscles. The emaciation is generally but not always marked. In the case of W. F—— (Case 3), even although he was practically unable to take any food for three weeks previous to admission, at the operation of gastrostomy there was fully three-quarters of an inch of fat covering the abdominal wall, and the portion of the omentum exposed was noticed to contain a considerable quantity of adipose tissue. The stomach was quite empty and collapsed. But while, in this particular case, the emaciation was not so marked as one would have expected under the circumstances, the condition of the pulse, the temperature, the feeling of extreme weakness, and the tendency to syncope all showed the effects of starvation.

In most of the cases which I have shown to you the patients have not complained much of hunger, except perhaps during the early stage of the disease. In the more advanced cases it is frequently very difficult to get food taken, even although the patient is able to partake of fluids or semi-fluid diet. Partly on account of the dryness of the throat and fetid odour of the breath, but also I believe from a desire that their suffering may soon terminate, the patients may absolutely refuse to take nourishment in any form. Some time ago I had a case where I was feeding the patient very satisfactorily by a stomach-tube, when one morning she intimated that she had had her last meal, and would allow no more food to be given to her in any form; but this was not to be wondered at, for after each meal she was tortured with severe pain in the epigastrium, due to the collection of large quantities of gas in the stomach, which she was unable to rid herself of. In very few of the cases which I have seen does the patient complain much of pain during deglutition, unless in those instances where the tumour is situated high up. In these the pain during swallowing is often sharp and burning, and is referred to the ears and side of the neck rather than to the throat. Between meals the pain is less severe, but still present at all times unless when relieved by treatment. When the disease attacks the middle third of the œsophagus the patient not uncommonly states that in the evening or during the night he experiences a feeling of a "load of uneasiness" or even of dull aching pain in the back or in the epigastrium. Should the carcinoma involve the lower end of the œsophagus, the patient seldom suffers from pain either during deglutition or at other times. This absence of suffering in such cases is somewhat remarkable. For example, in the case of H. C—— (Case 9), even although the carcinoma involved the lower extremity of the œsophagus and the cardiac end of the stomach, the patient, on being carefully questioned, stated that he suffered from pain in the stomach at no time since the onset of the disease. Respecting the sensation of the stomach, it is rather remarkable that simple ulceration should cause so much distress; while stitching of the stomach, or even perforating its walls with the electric cautery, as observed in the cases of W. F——, Mrs. C——, and W. H—— (Cases 3, 4, and 7), should hardly be felt by the patients. The presence of dyspnœa, aphonia, and cough depends upon the position of the tumour. When the upper part of the larynx is involved obstruction to breathing may be occasioned, as I have already shown, by direct pressure upon the air passages by extension of the tumour into the larynx, or by œdema, as in Case 4. Again, as a result of involvment of the recurrent laryngeal nerves, paralysis of the muscles of the larynx may be produced and give rise to aphonia or dyspnœa according to circumstances. The voice may also be impaired or lost as a consequence of the tumour invading the cavity of the larynx. Cough is a very common symptom, and may be caused in many ways—by saliva or food flowing into the larynx or trachea and there giving rise to catarrh, by the establishment of fistulous openings between the gullet and air passages, or by reflex irritation. Patients affected with carcinoma of the œsophagus, partly on account of their weak physical condition, are very liable to attacks of tracheal and bronchial catarrh, even although there may be no evidence to show that the malignant growth in the œsophagus is interfering with the function of the lungs. When the growth is situated in the first part of the œsophagus its situation and extent may be easily ascertained by palpating the neck or by examination with the finger passed into the pharynx. Should the disease attack the œsophagus at a lower level, in order to gain information it is often necessary to examine the passage by means of bougies. At the demonstrations I have shown you how these instruments

are used, so that in the remarks I am about to make I shall limit your attention to their employment only as applied to cases of stricture. When the bougie, one of large size to begin with, has been introduced into the œsophagus, it should be passed gently, no force being employed under any circumstances. If any obstruction be encountered in the course of the œsophagus, the bougie should be marked at the point in contact with the teeth, then withdrawn, and the distance from the point of the instrument to the mark carefully measured. The surgeon should then introduce a smaller instrument, and so on gradually going down the scale until he either succeeds in penetrating the stricture or in assuring himself that the obstruction is complete. In cases of cancer of the œsophagus sometimes even the most careful use of bougies may cause injury and slight hæmorrhage. In such instances the employment of instruments should be discontinued, but regarding this point I shall have more to say when we come to speak of treatment.

I have now completed what I have to say respecting the etiology, pathology, and diagnosis of carcinomatous disease of the gullet, and at the next lecture I will ask your attention to the other tumours which may occupy that canal, and also to spasmodic and organic stenosis.

THE BEARING OF RECENT BIOLOGICAL RESEARCHES ON THE PRACTICE OF MEDICINE AND SURGERY.

BY G. SIMS WOODHEAD, M.D., F.R.C.P.EDIN.,
DIRECTOR OF THE LABORATORIES OF THE ROYAL COLLEGES OF PHYSICIANS (LOND.) AND SURGEONS (ENG.).

(*Continued from page 13.*)

EVEN before the observations made by Beumer and Peiper it was well known that certain diseases, such as small-pox, could, when introduced into virgin soil, become excessively malignant, and it is recorded that whole tribes of North American Indians have been decimated and in some cases almost exterminated by this disease. Similarly it has been remarked that regiments that have been in certain barracks for a considerable length of time have been comparatively free from typhoid fever, although a sporadic case might occur; as soon, however, as a new regiment has marched into the vacated barracks typhoid fever has at once broken out as a widespread and most virulent disease. In both these cases it would appear that there is some process of acclimatisation, similar to that above mentioned, in all those who are exposed to the action of certain organisms or their products for any considerable length of time; whilst in those who for the first time come under the influence of these agents the power of special or general resistance is paralysed, and the patient succumbs. Coats[1] holds that this resistance is in different races the result of hereditary influence—that is, that we must look upon the process as due to a long-continued acclimatisation through successive generations. Coats, quoting Hirsch, points out, for instance, the remarkable difference as regards susceptibility of malarial fevers between negroes and Europeans, whilst the reverse is the case as regards susceptibility to small-pox. A number of similar examples of other diseases in which the same thing is seen are also given. All these examples are held by the followers of Metchnikoff to be in favour of the theory of phagocytosis; but, as we shall find it necessary to point out, several very strong, though not perfectly conclusive, arguments have been advanced in support of the theory put forward by Buchner and others of the German school, that immunity depends more on the soluble constituents of blood-serum than on the presence of phagocytes. Buchner maintains[2] that the cause of recovery of an animal from an attack of an infective disease is not due to the action of phagocytosis, but to the disinfecting action of the serum, and that phagocytosis is merely the result of an attempt on the part of the organism to get rid of the devitalised micro-organisms. He admits that phagocytosis occurs only in those cases in which an effort is made on the part of the organism towards recovery—i.e., that it occurs only where a certain immunity is present, but that it occupies merely a position of secondary importance, and that it is due to the action of chemotactic proteins which are set free from bacterial cells that have been rendered inert by the action of the serum. He had previously pointed out that certain proteid bodies introduced into the circulation exerted a very great effect on the leucocytes, which became enormously increased in number. The same thing had been previously observed by Schmidt of Dorpat and his pupils, and more recently it has been further worked out in connexion with Wooldridge's tissue fibrinogen by A. E. Wright and others. Buchner also points out that Roux and Metchnikoff, both of them believers in the importance of phagocytosis in relation to immunity, differ materially as to their interpretation of the effect of the action of the "specific toxines" of micro-organisms on leucocytes, Roux holding that these products attract leucocytes, exerting a positive chemotactic action, whilst Metchnikoff regards them as negatively chemotactic or as repelling the leucocytes. In order to get over this difficulty, Buchner suggests that it may be possible that certain toxines or toxalbumens may act positively and that others act negatively, but he admits that as yet we have no proof of such different action. Some time ago it was pointed out[3] that the same irritant, toxine or antiseptic, might act in different ways, according to its concentration, or according to the period during which it was allowed to act. Lister,[4] using a red-hot wire, which he gradually approached to a ciliated cell, found that when the wire came to a certain point it set up more rapid movements of the cilia, the heat acting as a stimulant by increasing the molecular activity in the cell. This was withdrawn, and again the speed of the movement fell. The hot iron was again brought near, and quickening was again produced, though not to such a marked extent. It was brought nearer still, and the motion now became slower and at last ceased. When the hot wire was suddenly brought near the stage of the microscope the ciliary movements stopped at once." Schulz,[5] working out the same idea from a different point of view, has been able to prove that the ferment power of yeast is distinctly increased by the addition, in sufficient dilution, of such virulent protoplasmic poisons as corrosive sublimate, arsenic, carbolic acid, and iodine; and he formulates the proposition that "every irritant exerts an action on every living cell of which the effect in relation to the cell activity is inversely proportional to its intensity." Wood and I repeated some of these experiments, and came to the conclusion that, as regards antiseptics and those protoplasmic poisons, there could be little doubt that just as in the case of sedatives, such as opium and chloroform, there is a stimulating stage through which the cells may become habituated by the continued and gradual increase of the dose to the action of the poison, so also was the stimulating or depressing action of an animal poison manifestly exhibited in cases of infectious disease. It has frequently been pointed out that when virulent anthrax is introduced into a susceptible animal no marked lesion is evident at the point of inoculation, but the animal dies rapidly of general anthrax; whilst if the same anthrax is introduced into an animal partially protected by vaccination or into an animal that is naturally refractory, or if it be introduced in sufficiently small quantity even into a susceptible species, there is usually a local reaction with inflammation, rarely accompanied by any general disease; so that here, as in the case of an abscess, the weakened poison acts upon the normal leucocytes or the strong poison acts upon the acclimatised leucocytes as a stimulant, and not as a depressant, with the result that the organisms and the disease are distinctly localised; the toxines are destroyed or eliminated, and although the local symptoms may be severe, there is no general disease. It is evident therefore that in the one case the poison acts as a stimulant, in the other as a depressant; or if we prefer it, the one exerts a positive, the other a negative, chemotactic action, for this is really what it amounts to.

Ruffer, in his experiments on the effect of antiseptics when introduced into the tissues in fragments of sponges, has arrived at very much the same conclusion, and he has

[1] THE LANCET, Jan. 14th, 1888, on the Pathology of Infective and Infectious Diseases.
[2] Centralbl. f. Bakteriologie u. Parasitenk., Bd. x., No. 22, S. 727.
[3] Woodhead and Cartwright Wood: Edin. Med. Journ., May, 1890.
[4] Quoted in Chiene's Lectures on Surgery, p. 10.
[5] Ueber Hefe-Gifte, Pflüger's Archiv, Bd. xlii., S. 517, and Virchow's Archiv, Bd. cviii., S. 427.

demonstrated in a most clear and satisfactory manner the chemotactic action of dilute solutions of such substances as corrosive sublimate, turpentine, and iodine.[6] When dilute solutions are used, the leucocytes from the surrounding tissue pass into the sponge in considerable numbers, and we have a regular zone of deeply stained cells advancing and getting rid of the foreign substance; whilst where the stronger solutions are used the leucocytes appear to be repelled or paralysed, and only when a considerable portion of the foreign substance has been removed in solution by the action of the fluids of the body are the leucocytes able to advance. Roux and Metchnikoff also suggest[7] that leucocytes may become accustomed to the presence of considerable quantities of toxines in those cases where there is acquired immunity, and they bring forward considerable evidence in support of their thesis. Buchner criticises their position, and points out that since in the case of vibrio metchnikovi the animals which are immune against the action of the vibrio itself still remain remarkably susceptible to the action of the toxines, unless the acclimatisation is brought about very gradually, we must suppose that the leucocytes only have acquired a tolerance of the poison. Improbable as this at first might appear, and indeed as Buchner maintains, we have a number of facts which indicate that it may actually take place, and that even after the leucocytes have become accustomed to the presence of considerable quantities of the toxines the nutrition of other tissues in the body will be so markedly interfered with that the animal may succumb. In this connexion it was pointed out as early as 1879 by Maffucci[8] that the products of the tubercle bacillus, or even sterilised cultures of that organism, when introduced subcutaneously into healthy fowls or guinea-pigs, produced a condition which he termed "marasmus." Emaciation and atrophy of the liver cells and of the cells of the spleen were brought about; whilst circulatory changes of such a grave nature were set up that there was marked congestion, not only of the spleen, but also of the lungs and kidney. Anyone who has worked with anthrax bacillus or the bacillus of blue pus must have remarked the same thing, for even when an animal has come through an attack of one of these diseases it often succumbs at a comparatively late stage—say, three weeks from the time of inoculation—when the organs, especially the secretory organs, are found to be in a state of fatty degeneration. Animals made immune from anthrax are notably very easily affected by changes of temperature, and a cold wave will frequently carry off a whole series of animals thus protected; whilst in the case of the blue pus bacillus the death from marasmus at a late stage of the disease, after the active bacilli have disappeared, is looked upon as occurring almost invariably. In all these cases, then, although the leucocytes, according to Metchnikoff, or the fluid constituents of the blood according to Baumgarten, Buchner, and others, may have become more resistant to the action of toxines, and are able to destroy and eliminate bacteria, the effects on the other tissues are so marked that they have undergone distinct degenerative changes, which here also are the result of over-work through over-stimulation by a more or less concentrated poison. There can be little doubt that in these cases, as in diphtheria where fatty degeneration, as pointed out by Roux and Yersin, is of such frequent occurrence, the changes are due to the products of the micro-organisms—some holding that these products are excreted; whilst others (amongst whom may be reckoned Maffucci, Philip, Buchner, and Mitchell-Prudden and Hodenpyl) maintain that the proteins of which the micro-organisms are composed are the cause of these changes, and that they can only occur after the organism has been killed by the serum and broken down by the phagocytes. From experiments made by Cartwright, Wood, and myself[9] I am convinced that some at any rate of these products are undoubtedly very intimately bound up with the protoplasm of the micro-organism, and can only be separated by a most careful treatment or long-continued maceration, especially after the organism has been killed. I shall return to this question of chemotaxis.

It has recently been maintained that micro-organisms are present in all the tissues of the body, and that if a healthy animal be killed these micro-organisms will develop, multiply, and set up decomposition of the tissues in which they are present. Mr. Lawson Tait[10] says, "A solid mass of beef—say, a bed and silverside—is removed from a perfectly healthy ox, and is put at once into a sound and healthy pickle. The pickle is a powerful antiseptic, and if the pickle reaches the middle of that beef before the germs contained in it have had time to start their work the beef in a few days or a week or two will be fit to eat; but every housekeeper knows perfectly well that the result will depend absolutely upon the outside temperature. It would be absolutely impossible to pickle a piece of beef in August which could be easily pickled at Christmas." And then he goes on to argue that during the few hours, or maybe few minutes, that the beef is exposed to the air it does not become impregnated with germs right to the centre; but that it is more consistent with common sense to believe that the germs were in it before it left the ox, and therefore in life. I have in connexion with this matter experimented most carefully with a view of determining whether in a healthy animal micro-organisms really find their way, or remain for any length of time capable of development and multiplication in the animal tissues. I have repeated the experiments made by Chiene and Ewart, Burdon Sanderson, Ballance and Shattock, and others, and I am convinced that in a healthy animal or in a healthy human being there are no organisms to be found, except in certain cavities of the body, directly continuous with the external world; and that, even in some of these cavities and passages, as Lister long ago pointed out, where the walls are in close apposition, micro-organisms cannot exist. In the urethra, for example, no organisms are found beyond the meatus urinarius externus until the patient dies. If, however, the blood of an exhausted animal, or of a patient who has just died from some disease, be examined, or if particles of the dead tissues of diseased animals be examined in the same way as tissues of the healthy animal were examined, organisms may undoubtedly be found. We must therefore assume that in these instances the barriers which under ordinary circumstances exist have been broken down, and the micro-organisms have made their way from the respiratory passage or from the alimentary canal into the circulation, and so to the weakened tissues by which they are not immediately killed off. This is a point of very great importance, for we know that in cases of pyæmia, where micro-organisms are undoubtedly present in certain parts of the circulation, or in cases of abscess formation where we cannot in all cases assume that the micro-organisms are as definitely localised as is the case in pyæmic abscesses, suppuration is set up at one or more points, whilst it is entirely absent from others. We must therefore assume that organisms introduced at one point, and into comparatively healthy tissues, are killed off; whilst organisms which make their way into less resistant, unhealthy, or weakened tissues can multiply and give rise to localised suppuration. Although this is undoubtedly true, we may accept it as proved that in most instances pyogenic or pathogenic organisms have little power of maintaining their full vitality during their passage through the protective epithelial and lymphoid cells of the alimentary canal, say, and that in most cases, even when there is actual disease, they are so far weakened that their destruction is ensured within a comparatively short time, even by the weakened agencies (whether they be phagocytic or biotoxic) which ordinarily interfere with their advance. In the case of an incised or contused wound, where a considerable mass of tissue is devitalised and where large quantities of serous fluid, which is not constantly brought into contact with living tissues, and to which new nutrient material cannot be brought, and from which excretory products cannot be removed, we have of course all the conditions necessary for the growth of micro-organisms, a growth which will go on most luxuriantly should any seed material be allowed to find its way to this prepared soil.

As Lister used to point out, if the two surfaces of an incised wound can be brought close together after the stoppage of bleeding and the serum has ceased to escape, the wound will heal without suppuration from the fact that any micro-organisms which might make their way into the wound from outside are immediately destroyed. In those cases, however, where a large quantity of organic or inorganic material in which micro-organisms are present has been introduced into the wound, the case is different, for here a large number of organisms are partially protected by the material along with which they are introduced; they are able to obtain such foothold that they cannot be got rid of without a determined battle between them and the phagocytes, as the result of which we have what is known as suppuration.

[6] THE LANCET, Dec. 26th, 1891. [7] Annales de Pasteur, No. viii., 1891.
[8] Centralblatt für Allgem. Path. u. Path. Anat., Bd. i., No. 26, Dec. 15th, 1890. [9] THE LANCET, Feb. 22nd, 1890.
[10] British Medical Journal, Feb. 14th, 1891, p. 381.

Whatever may be held as to the ultimate mechanism of immunity there can be little doubt that suppuration is most intimately associated with phagocytosis. If we take the case of an ordinary abscess it is usually found that chains or masses of cocci are found in the lymphatics, especially those in the connective tissue; whilst in the case of pyæmic abscesses, pyogenic micro-organisms become impacted in the small vessels. In either case the result is much the same, though where the organisms make their way by the bloodvessels they occur in larger masses, the process is more acute, and the abscesses are smaller; where they are conveyed by the lymphatics the masses of micrococci are smaller, though the immediate area of distribution may be wider than when the infection is by the bloodvessels; and more extensive localised suppuration ensues.

It may, perhaps, be said that abscesses have been so frequently described that it is superfluous to give any further description; but as I wish to insist upon one or two special points I shall give a short description of what may be seen in a small septic embolic abscess—in the muscle of the heart, say. In its centre may usually be seen a section of the vessel plugged with a mass of micrococci. This, when stained with one of the aniline colours, stands out very distinctly, especially as around it there is usually a very imperfectly stained zone of somewhat homogeneous tissue, which consists of the wall of the vessel along with fragments of muscle, amongst which lie a few unstained, and therefore probably dead or degenerated, leucocytes; the fragments of muscle fibre have also lost much of their ordinary typical structure and appearance. Outside this area comes a zone of multinucleated leucocytes, or, if we prefer to speak of them as such, phagocytes, deeply stained, evidently in a very active state of existence; whilst here and there is a larger cell with one, or rarely two, deeply stained nuclei, derived apparently from the fixed connective tissue cells. At the extreme margin of the abscess these fixed connective tissue cells are more numerous as they lie in this cellular mass, the muscle fibres are much degenerated, fragments of the sheath remaining, with here and there scraps of much degenerated or vacuolated granular muscular fibre. In this case there can be little doubt that the products of the micro-organisms acting on the tissues in their immediate neighbourhood have done one of two things—viz., they have lowered or destroyed the vitality of the protoplasm directly, or they have set up a kind of digestion of the muscular fibres and their tissues, a function which is usually ascribed specially to the leucocytes that are brought up at a certain period of the process; for following or accompanying this alteration in the muscles, which has resulted in such a degeneration that the nuclei within them are now imperfectly stained, there has been a further migration of leucocytes from the distended vessels in the degenerating area, which gradually make their way from the margin to the centre of the abscess, and digest and remove the degenerating tissues.

In this process a number of these leucocytes or phagocytes are destroyed and disintegrated either by over-stimulation or over-work, or possibly by the peptonising action of the micro-organisms or of the still active leucocytes; and pus cells—devitalised cells which can never return to the vessels—are formed. As the abscess increases in size more and more of the leucocytes in the centre of the abscess become disorganised; but those near the periphery are regularly reinforced, to form a barrier to the advance of the bacteria, either merely temporary or more permanent in character according to the original vitality of the tissues on the one hand, and the activity of the micro-organisms on the other; even in cases of acute abscesses, sooner or later localisation occurs almost invariably.

(To be continued.)

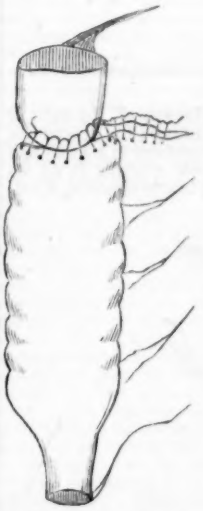
A SUGGESTION FOR THE TREATMENT OF IRREDUCIBLE INTUSSUSCEPTION OF THE BOWELS.

BY ARTHUR E. BARKER, F.R.C.S.,
SURGEON TO UNIVERSITY COLLEGE HOSPITAL, ETC.

IN the discussion which followed the reading on May 10th, 1887, of a paper which I had the honour to present to the Royal Medical and Chirurgical Society on a case of excision of an intussusception of the sigmoid flexure of the colon I was asked how I should deal with a case of intussusception in which the mass could not be reached from the rectum, and was found to be irreducible on opening the abdomen. My reply was that the possibility of such a state of things had occurred to me long ago, and that I had formulated an operation to meet the difficulty, but had not had as yet an opportunity of putting it into practice. I then described this procedure briefly to the meeting,[1] and now propose to publish it in detail in the hope that it may be the means of saving life in some cases belonging to a class hitherto regarded as almost hopeless. I have waited for more than five years for an opportunity of putting this method into practice in the living body, and testing its feasibleness and practical value. Having during the past summer been called upon to deal with two cases of irreducible intussusception, and having in each employed this procedure, the time appears to have arrived to make it more generally known, and to suggest its being tested by other surgeons. For, although in the cases in which I used this method it did not prevent a fatal termination, the attempt proved that the operation was quite feasible, and could be completed in a reasonable time and without much difficulty. It also showed, I think, that it was correct in principle, and that the fatal result was not due to any inherent defect in the procedure itself, but to the desperate condition of these particular cases. And I cannot help feeling that under less unfavourable conditions, and with an increased experience of details, this method will prove very successful.

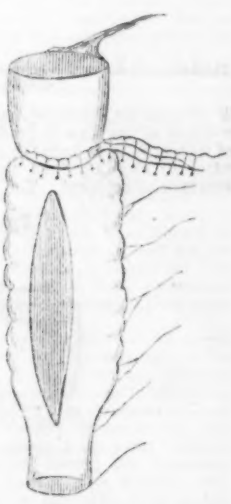
The procedure is as follows. Given a case of intussusception which cannot be reached from below, and which on opening the abdomen is found to be so tightly strangulated that reduction, even if feasible, could only end in disaster, then, instead of forming an artificial anus on the one hand, or, on the other, resecting the whole mass of damaged bowel directly, and suturing the divided ends together (both most formidable measures which have so far been followed almost invariably by death), I proceed as follows:—At the point at which the intussuscipiens receives the intussusceptum the two portions of the bowel are at once united by a continuous circular suture of fine silk taking up the serous and muscular coats of each, and carried on to the mesentery. (Fig 1.) A longitudinal incision is then made for about two inches through all the coat of the intussuscipiens on its free margin (Fig. 2). This gives access to the

FIG. 1.



First step: to join intussusceptum and intussuscipiens above by circular continuous suture.

FIG. 2.



Second step: to open intussuscipiens by longitudinal incision.

[1] Vide Proceedings of Royal Medical and Chirurgical Society, new series, vol. ii., p. 227.

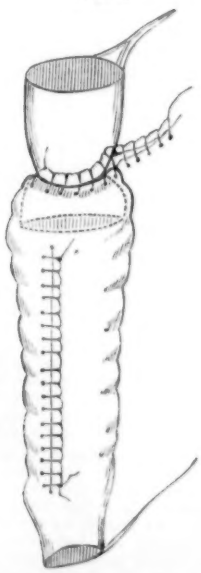
sausage-like intussusceptum within. The latter is then drawn out through this incision, and is cut across close to its upper end (Fig. 3); or, if too long to be first drawn out, it may be cut across *in situ*. A few stout

FIG. 3.

Third step: to draw out intussusceptum, cut it off, and suture its divided edges.

silk sutures are, however, passed through all the walls of the stump as the mass is gradually cut off (Fig. 3), and are tied tightly so as to keep the serous surfaces in contact and control all bleeding from the vessels entering it at its mesenteric attachment. The stump is now cleansed, dried,

FIG. 4.



Fourth step: to close longitudinal incision, leaving stump of intussusceptum inside.

and dusted with iodoform, and is allowed to drop back through the incision into the lumen of the intussuscipiens Then the longitudinal incision in the latter is closed by a continuous suture from end to end (Fig. 4). Toilet of the surrounding parts and closure of the abdominal wound completes the operation, which in my first case only lasted half an hour and in my second a little longer. In a future case I shall look forward to finishing the whole operation in a much shorter time and with much less manipulation. Now, in this operation the resulting junction of the bowel is just what we aim at in the far more elaborate procedure of direct resection of the bowel. But we have the great advantage, besides the saving of time, of not interfering with possible adhesions at the point of strangulation or with the mesentery. Moreover, the vessels of the latter are probably blocked by the strangulation at a point above that at which they are cut, and, if they are not so, they are closed by the same sutures which bring together the divided edges of the stump.

In both my cases the operation was practically extra-abdominal and was comparatively easy. The principle of the procedure is, as I pointed out in my first notice of it at the Royal Medical and Chirurgical Society, to imitate what nature does in those rare cases in which the intussusception is thrown off by gangrene. But by this method the part that would slough is boldly cut away without disturbing the adhesions which form round the upper end. Moreover, these adhesions are reinforced by sutures applied first on their proximal (Fig. 1) and then on their distal aspect (Fig. 3). My impression is that the sutures used for the divided surface of the intussusceptum will not require to be many. Three or four towards the mesenteric aspect, which will secure the vessels, will be, I think, enough.

CASE 1.—Arthur C——, aged four months, was brought to University College Hospital on July 31st, 1891, having had his bowels obstructed for three days The attack had begun on the 27th with violent pain and without any history of previous illness. A small motion had been passed on the 30th, but no flatus. The mucus and blood passed on admission had a gangrenous odour, and the finger introduced by the rectum came away covered with bloody mucus, with the same smell. An attempt to reduce the intussusception had been made by inflation before admission, but had failed. When brought to the hospital the child was very collapsed; pulse 140, extremities cold. Its abdomen was tense. Per rectum the intussusception could be reached about two inches from the anus. Under chloroform a sausage-shaped tumour was felt in the left iliac region. The bladder having been emptied, I opened the abdomen in the middle line, and found in it a quantity of dirty, grey, foul fluid. The intussusception was now drawn out of the abdomen, and immediately it was seen that the intussuscipiens was perforated by two gangrenous ulcers, from which the sloughing mucous membrane of the intussusceptum protruded. These ulcers were laid open into one, and through this the intussusceptum was withdrawn, cut off, and sutured, as described above, with four sutures The stump was then replaced, and the edges of the ulcerated intussuscipiens, being inverted, were drawn together with an ordinary continuous suture. Toilet of the surroundings and closure of the abdominal wound completed the operation, which had lasted half an hour. The child was put back into bed surrounded with hot bottles, but sank gradually, and died ten hours later. In this case little was to be expected from any operation, the abdomen having already been infected by gangrenous fluid and the child's powers being exhausted; but the subsequent necropsy showed that the suture of the bowel was quite firm, and resisted a high pressure of water without leaking. The lumen was also pervious through the stump of the intussusceptum. The portion excised contained part of the cæcum and the termination of the ileum.

CASE 2.—Raymond G——, aged twelve years, was admitted into University College Hospital on Aug. 14th, 1891. On Aug. 12th he was seized with sudden pain in the abdomen, which soon became tender and swelled up. He then took a dose of castor-oil; this was followed by a motion the same night "like diarrhœa." The next day another slimy motion was passed mixed with blood. He was sick twice during the day, but passed no flatus. On the 14th, before admission, he was again sick, but the pain was less, probably owing to the opium which had been given him by his doctor. On admission on the 14th (5 P.M.), there was no collapse. Pulse 116, rather small, and compressible. He was dark and sunken round the eyes, but quite sensible. The intussusception could be felt through the abdominal wall, but not per rectum. On opening the abdomen I was able to draw out the intussusception without much difficulty, and found it five or six inches long. The intussuscipiens was

very tightly stretched over the mass within, and was dark purple above. Hoping to be able to reduce this infolding as I have done successfully in other cases, I grasped the intussuscipiens below the swelling, and gradually squeezed it against the end of the intussusceptum. But very soon the damaged bowel began to give way over the upper part of the tumour, the serous coat tearing in one or two places transversely, and then the muscular coat. Finding that reduction was impossible, I now increased the amount of bowel intussuscepted until the tears in the serous coat were infolded, and then performed the operation described above and figured. In this case the incision was made longitudinally in the intussuscipiens. On cutting away the intussusceptum and suturing it the little finger could be passed through its lumen into the distended bowel above.

The most careful antiseptic precautions were of course taken in both these operations. The usual restoratives were used and morphia was given, but the patient's condition became gradually worse and he died fourteen hours after operation. The portion of bowel removed consisted entirely of jejunum. There was no adhesion between its serous coats which were separated by effused fluid.

Necropsy by Mr. WHITE.—"There is a slight trace of turbid fluid in both flanks and a few trifling adhesions between the coils. In the neighbourhood of the sutured intestine everything is quiet. The intussuscipiens for quite nine inches below the point sutured is livid and ecchymosed. The longitudinal line of suture in the intussuscipiens is perfectly satisfactory and hardly to be noticed, with a little plastic lymph about it. The intussusception was within three feet of the duodenum. Before opening the sutured bowel it was tied over a water tap, and the water was turned on. This passed freely through the sutured portion without leakage, and only when the distended force was made extreme by closure of the bowel below was there a trace of the latter. Both lines of suture appeared perfectly adequate. There was no hæmorrhage either inside or outside the bowel. The internal organs were all normal."

In this last case I believe I was very near success. But the condition of the bowel was very bad, and I lost time, besides, in fruitless attempts to reduce the intussusception. This only resulted in a cracking of its two outer coats, which were softened above. Had I at once proceeded to perform the operation described it is probable the result would have been different. But of course there are factors in all these internal strangulations which may have the most unfavourable influence upon the general condition without giving much evidence of their presence at the time of operation. These might have vitiated the operation, even if it had been more rapidly completed. It is satisfactory to note that as far as the suture was concerned it left nothing to be desired. And, besides this, the lumen of the bowel was now quite free. Again, one point about which I was very anxious was cleared up by these operations, epecially by the latter—namely, the condition of the included portion of the mesentery and its vessels. Neither the mesentery itself nor its vessels gave any trouble. The first was found quite secure at its junction with the bowel, and its vessels were also perfectly controlled by the sutures which had been passed through the stump of the intussusception. It might be objected that, even if these patients had recovered after operation, they would have suffered from stricture of the intestine at the point sutured. This has certainly not been the case with two patients upon whom I performed excision of an intussusception of the sigmoid flexure of the colon, by a method almost perfectly analogous. One of these women is now in the enjoyment of excellent health without intestinal trouble, more than five years and a half after operation; the other I have lately seen in the street quite well, upon whom I operated last summer. I can already see some small points in which the details of the operation described above might perhaps be improved, and hope to be able to effect these improvements in subsequent cases.

NEW COTTAGE HOSPITAL AT LEDBURY.—The opening of the new cottage hospital took place at half-past twelve on the 29th ult. The hospital—which cost £3000—has been given to the town by Mr. M. Biddulph, M.P., in commemoration of the coming of age of his eldest son, Mr. John Biddulph.

PLEURAL EFFUSION AND EMPYEMA.

BY JAS. ALEX. LINDSAY, M.A., M.D., M.R.C.P. LOND.,
PHYSICIAN TO THE BELFAST ROYAL HOSPITAL; CONSULTING PHYSICIAN, ULSTER HOSPITAL FOR WOMEN AND CHILDREN.

(Concluded from page 18.)

I PASS on to consider the second question which I have put down for discussion—viz., "Is the diagnosis of pleural effusion from pneumonic consolidation ever impossible?" There are some good clinical observers who teach that there are many cases, especially in children, where it is impossible to feel sure of the presence of fluid before inserting the needle, the physical signs being indistinguishable from those of pneumonic consolidation. This is no doubt a consolatory doctrine, but I think we should pause before assenting to a proposition which, however convenient to ourselves, is hardly flattering to the resources of our art. I am disposed to believe that cases in which the thorough application of the various methods of physical examination will leave a real doubt upon our minds are few in number, though I do not deny that now and again, though very rarely, a case presents itself in which the physical signs are puzzling and conflicting. In cases of doubt I am accustomed to rely mainly upon two signs, and I have very rarely found them to fail. Those two signs are (1) the diminution or absence of the normal vocal fremitus, and (2) the displacement of organs, especially the heart. The former of these, though not absolutely diagnostic, is certainly almost invariably found where fluid is present, and is excessively rare in any other condition. The displacement of organs, especially the heart, is diagnostic unless there are grounds for suspecting some other cause for it. I believe that attention to these two points, together with the careful mapping out of the area of dulness, will make the distinction between pleural effusion and pneumonic consolidation usually easy. The character of the breathing is not to be depended upon in doubtful cases. Bronchial breathing is quite common in pleurisy, and cannot be distinguished from the breathing of pneumonia. Nor is vocal resonance any help. The sound of the voice heard through fluid is quite variable, and may be normal, or simply faint, or bronchophonic or ægophony may be heard. The history of the case and the course of the temperature will usually afford some guidance. While, therefore, I believe the difficulty of distinguishing pleural effusion from pneumonic consolidation has been sometimes overstated, I have notes of a case in which great difficulty arose.

John B——, aged fifteen, was admitted to the Royal Hospital, under my care, on Monday, Dec. 9th, 1889. The history was that he had been taken ill on the previous Friday, Dec. 6th, with chills, headache, pains in the knees and the right side, and slight cough. He remained at work on Friday and Saturday, but gradually became worse, took to his bed on Sunday, and on Monday (1 P.M.) was removed to hospital. On examination I found the breathing hurried, respiration 44 to the minute, face flushed, temperature 102°. There was dulness over the base of the right lung, and in the right axillary region. Vocal fremitus was lost over this area, and the breath sounds were much diminished. The diagnosis of pleurisy with effusion seemed obvious. On Monday evening the temperature rose to 103°; herpes appeared upon the lips, and crepitus was heard at the right base. On the following morning (Tuesday, Dec. 10th) the temperature had fallen to 101·4°. The same evening, however, it rose to 104·2°; loud tubular breathing was heard at the right base, the respiration was 36, pulse 116, and there was cough, but no expectoration. The patient was not obviously worse. He had a quiet night and slept well. On the following morning (Wednesday, Dec. 11th) the tubular breathing had quite disappeared, the breath sounds were almost absent over the affected area, but some crepitus was heard at the upper level of the dulness; vocal fremitus much diminished, as before; temperature 102°; the pain in the chest had disappeared. The temperature on Wednesday night was 103°, but had fallen to 101° on Thursday morning. The pulse was now 100; respiration 48. The temperature on Thursday evening rose to 102·4°. On Friday morning it was 101°. Dulness and diminished fremitus as before;

some crepitations still heard over the affected area. A slight displacement of the apex of the heart was now for the first time observable. I inserted the hypodermic needle, and drew off a drachm of pure serum. The subsequent progress of the case presented the ordinary features of pleurisy, friction appeared speedily, and the boy was discharged well on Jan. 4th, 1890, having been in hospital twenty-six days.

To discuss this case adequately would take more time than I can afford for it. My conviction is that the case was one of pleurisy throughout, and that there was no pneumonia; but it will be admitted that the physical signs, the high temperature, and the labial herpes caused considerable difficulty. My reasons for regarding the case as one of simple pleurisy are as follows: 1. The onset was gradual, the patient not taking to bed until the third day. 2. The maximum temperature (104·2°), though high for pleurisy, was not reached until the fifth day of the disease. 3. The subsequent course of the temperature was irregular, and there was no crisis. 4. Vocal fremitus was much reduced or absent throughout. 5. The bronchial breathing lasted only one day, and was suddenly succeeded by almost total loss of the vesicular murmur. 6. The displacement of the heart was observable on the eighth day of the illness.

A few words must suffice for the third and fourth questions which I have put down for discussion. By a bloody effusion I mean not an effusion which consists of serum streaked with blood, which is not uncommon and of no particular significance, but an effusion which is mainly composed of blood. This has not been very common in my experience, though it cannot be reckoned a rare occurrence. I have met with it in three cases. In the first the patient died suddenly, and a post-mortem examination revealed the presence of an aneurysm of the aorta, of which there had been no characteristic signs during life. The second case was a very chronic one; but no tubercular, cancerous, or other complication could be detected. This case has been lost sight of, and I cannot say what is the explanation of the bloody effusion. The third case is still in progress, and there are some grounds for fearing tuberculosis. A bloody effusion is also known to occur in cancer of the pleura and in scurvy; but I have no personal experience of such cases. My cases are too few to warrant any conclusion, but so far as they go they corroborate the general impression that a bloody effusion is unfavourable and frequently conceals some complication. At the same time we must recollect that there are cases on record where the removal of a bloody effusion by aspiration has been followed by a speedy and uninterrupted recovery.

The answer to my fourth question—viz., "Can the presence of pus be positively diagnosed before aspiration?" must be a decided negative. The presence of pus may often be shrewdly suspected, but I have seen cases which have convinced me that the signs laid down in many text-books as diagnostic of the presence of pus are fallacious. If we trust to constitutional signs we are apt both to diagnose pus when it is absent and to overlook it when it is present. In one of my cases there was the most typical hectic fever, with high and remitting temperature, profuse night sweating, malar flush, and wasting; yet on aspiration the fluid proved to be limpid serum. In another of my cases there was only a very trifling rise of temperature, no night sweats or other symptom of hectic fever; yet the fluid proved to be pus. As regards the local signs, which have been alleged to furnish a *differentia* between serum and pus, I can only say that in none of my cases have I found them of any value. I should therefore be disposed to say that our wisest course at present is to admit that we cannot determine the character of the fluid present without removing some of it for examination, and that, where the distinction is of importance, we should determine the point at once by inserting the needle.

My fifth question—viz., "What is the best method of treatment for cases of moderate serous effusion?"—will require fuller consideration. It is to be regretted that we have no satisfactory records to show us what is the normal course of cases of moderate effusion without treatment. The tendency is, no doubt, to spontaneous subsidence, and the only practical question is whether by the administration of drugs or operative interference we can materially hasten the natural process. It is now generally admitted that many of the methods of elimination formerly in favour are either useless or injurious. The administration of diaphoretics, diuretics, and hydragogue purgatives would seem to exercise slight influence over the effusion, and in view of the facts that pleurisy is always accompanied by a good deal of debility and that a considerable number of cases become tubercular, depletory measures should not be pushed too far. Two remedies, however, maintain their position—viz, counter-irritation either by cantharides or iodine, and the administration of iodide of potassium. My experience would incline me to think that both these remedies are helpful, and tend to promote absorption. The addition of the ammonio-citrate of iron to the iodide of potassium seems often very advantageous, especially if the case tends to become chronic. The great question, however, in this connexion is whether aspiration should be performed, and, if so, how soon. In certain cases the necessity and advantage of aspiration are universally admitted. If the amount of the effusion be very large and dulness extend as high as the second rib in front, or if the measurement of the affected side be markedly increased, or if there be much dyspnœa, in such cases there can be little doubt we ought to perform aspiration without delay. The difficulty of decision is rather in that large group of cases where the effusion is moderate in amount and where there is very little dyspnœa or other disquieting symptom. The questions arise with regard to such cases: (1) Does aspiration lessen the chance of a fatal issue? and (2) Does aspiration shorten the duration of the disease? The first question may be dismissed, as a fatal issue in such instances is so rare that it is hardly a factor in the case. The second question is a very interesting one, but the difficulty of determining it is very great. I have collected a considerable amount of evidence, both from my own practice and from other sources, with a view of determining whether (in the class of case now under consideration) aspiration hastens recovery; but I find it impossible to draw any secure conclusions. One practitioner inclines to tap frequently and to tap early, and his statistics will be very favourable to aspiration. Another reserves tapping for serious cases with large effusion, or for chronic or semi-chronic cases, and his statistics will be unfavourable. My own experience inclines me to the view that, apart from urgent symptoms or excessive effusion, there is no advantage in tapping during the first fortnight, the fluid accumulating again and again if the tappings be repeated. If, however, the third week progresses without some decided evidence that the fluid is ebbing, or if at this period there is any increase of the effusion, tapping should probably be performed. One way to throw some light on this question would be to compare the best results obtained with and without tapping. I find that there is very little difference to be observed. Several of my cases in which tapping was not performed were convalescent in three weeks, and I have no evidence that tapped cases run a less course than this. Nevertheless, the good effects of tapping in suitable cases are often very striking.

I have, lastly, to consider some points in connexion with the very interesting subject of empyema. Of (*a*) simple aspiration for empyema I have no experience. It almost invariably fails, and there are many grave reasons against the delay which repeated tappings involve. Nevertheless, a success is occasionally obtained. A case has been recently reported to me by a medical friend of a young lady the subject of empyema whose relatives refused to sanction the operation of incision. Tapping was therefore resorted to, and after four aspirations there was no further accumulation of pus, and a cure was effected. Such a happy result is, we must remember, exceedingly rare. The plan of (*b*) continuous syphon drainage after the method of Dr. Bulau of Hamburg has won great favour in Germany, and has been most favourably reported on by Professor Leyden of Berlin and Professor Immerman of Basle. It consists in the use of an elastic tube connected with a trocar leading into an antiseptic solution. It is said to be unsuitable for cases of inexpansile lung, pyo-pneumothorax, and pulmonary fistula, as well as for those where the pus is thick. It is said to be somewhat difficult of application, as it requires perfect rest on the part of the patient, the elastic tube being apt to slip from the wound. Forty-nine complete cures out of fifty-seven cases with three deaths have been reported by this method, and this result must be regarded as highly favourable. Of (*c*) free incision, with or without resection of the ribs, I can speak very highly. It is the recognised operation in this country, and the results are most gratifying. Probably not less than four-fifths of the

cases thus operated on recover, provided there be neither tubercle nor amyloid disease present. My own experience is limited to three patients, all of whom made a good recovery. In one case dangerous collapse followed the operation, and the patient was only rallied by the most energetic measures. Resection of the ribs is frequently an absolute necessity from the manner in which the ribs get wedged down one upon the other. I have seen one case where the space between the ribs at the inferior angle of the scapula was barely sufficient to admit the edge of a knife. I am disposed to think that in all cases a very free incision is desirable, and that a thoroughly free exit for the pus should be secured at all hazards. I see no advantage in the plan of making two openings, which is a favourite method at some hospitals. As regards (*e*) irrigation, the present feeling is against its employment. Accidents have been reported from this procedure, and unless in cases of very foul pus, no advantage seems to accrue from it.

THE PERCENTAGE OF FIBRIN IN THE BLOOD OF LEPERS.

BY BEAVEN RAKE, M.D. LOND,
MEDICAL SUPERINTENDENT OF THE TRINIDAD LEPER ASYLUM.

THIS inquiry was made in Trinidad, and was suggested by a case which occurred there. On opening the body of an anæsthetic leper a thoracic aneurysm was found which had undergone spontaneous cure.[1] The blood in leprosy was examined many years ago. Danielssen and Boeck[2] made fourteen analyses—eight in tuberculated and six in anæsthetic lepers,—and found the highest percentage of fibrin to be 0·6 per cent., and the lowest 0·22 per cent. Hillairet[3] also made three analyses of blood in cases of tuberculated leprosy, and found that the percentage of fibrin ranged from 0·31 to 0·61.

We cannot now accept the theory of Danielssen and Boeck, that the excess of fibrin and albumen in the blood is the primary cause of the other leprous changes. An examination of leper blood is, however, not without interest; for though there is reason to believe that leprosy is due to a bacillus, the changes which are produced in the blood, either directly or indirectly, are of no little importance. Thus the rapidity with which leprous tissues heal after operation is well known to those in charge of asylums, and has already been referred to by the writer.[4] Also the spontaneous formation of firm laminated clot in an aneurysm of the arch of the aorta is unfortunately by no means common. Another noteworthy fact was the rapid coagulation of blood in an anæsthetic leper, in whom the great toe was being explored for dead bone in the Trinidad Asylum. The blood clotted so quickly that it fell in round beads into the basin of water above which the operation was being performed. These beads remained undissolved in the water. The percentage of fibrin in this patient was afterwards found to be 1·25. It seemed, therefore, that an attempt to estimate the fibrin in leprosy extended over a number of subjects might not be without value. For this purpose fifty lepers were chosen from those in the asylum. An endeavour was made to obtain a nearly equal number of persons suffering from each of the three forms of leprosy, but otherwise they were chosen without selection, the blood being chiefly collected from operation cases. In these there is the fallacy that in cases of sinus or ulcer there may be a certain amount of local inflammation causing effusion of fibrin factors in the tissues. As far as possible this source of error was avoided by collecting the blood in such cases after the first gush had taken place. In each case the blood was collected in a test tube and immediately whipped with a rough piece of wood to collect the fibrin. The test tube, wood, and blood were then weighed together. The clot was afterwards detached from the piece of wood, left to soak for some hours to detach blood-corpuscles, dried on blotting-paper, and weighed. The test tube and wood were also washed, dried, and weighed, their weights being deducted from the original total weight. The remainder gave the weight of the blood, and that of the dried fibrin being also known, the percentage was easily calculated.

The accompanying table shows that the range of percentages obtained by this method was very great, the lowest percentage being 0·12, the highest 1·87. The blood in this case, however, was collected from an incision at the side of a large hæmorrhagic ulcer of the leg, so that there was a possibility of the existence of the fallacy above noted. Taking, however, the average in the three forms of leprosy, there was seen to be a remarkable constancy in the percentage of fibrin. Thus in sixteen tuberculated cases the mean percentage was 0·78, in twenty-one anæsthetic cases it was 0·79, and in thirteen mixed cases it was 0·72. The mean percentage in the fifty lepers amounted to 0·76. In Danielssen and Boeck's fourteen observations the average percentage of fibrin was 0·36, while in Hillairet's three observations it was 0·65. Allowing, therefore, for the errors of experiment already mentioned, the mean percentage calculated on an increased number of observations and subjects agreed approximately with the results previously obtained from more limited records. The table contains details of the observations. It is noteworthy that in only two of the fifty cases was the percentage of fibrin below 0·2—the quantity said to be present in healthy human blood.

Table showing Percentages of Fibrin in Fifty Observations.

No.	Age. M.	Age. F.	Form of leprosy.	Time affected.	Percentage of fibrin.	Source of blood.
1	21	—	M.	17	0·56	Enlarged left mamma.
2	—	57	A.	12	1·07	Perforating ulcer of foot.
3	18	—	T.	9	0·66	Large tubercle of hand.
4	44	—	A.	8	0·71	Granulating ulcer of finger.
5	39	—	A.	22	0·91	Swelling of foot from caries.
6	51	—	A.	9	1·39	Sinus of foot from caries.
7	—	25	T.	4	1·33	Infiltration of arm after acute leprosis.
8	66	—	A.	2	1·02	Stump of amputated toe.
9	68	—	M.	10	0·33	Tubercle of hand.
10	11	—	T.	5	0·85	Bleeding ulcer of leg.
11	26	—	A.	9	0·51	Stump of amputated great toe.
12	34	—	M.	15	1·06	Tuberculated thickening of arm.
13	61	—	A.	2	0·98	Swelling of forearm after suppuration of finger.
14	37	—	A.	2	0·33	Swollen anæsthetic finger.
15	45	—	A.	17	0·89	Sinus of foot.
16	41	—	A.	12	0·73	Stye of upper lid.
17	54	—	A.	12	0·59	Sinus of great toe.
18	—	18	T.	1	0·30	Tubercles of hand.
19	21	—	M.	4	0·95	Tuberculated thickening of finger.
20	45	—	A.	9	0·43	Sinus of foot.
21	—	16	T.	1	1·47	Tubercle of face and tissues at elbow.
22	22	—	A.	7	0·49	Sinus of great toe.
23	—	16	T.	6	0·30	Ulcerating tubercles of foot.
24	—	48	A.	4	0·52	Sinus of finger.
25	41	—	A.	12	1·05	Ulcer of foot.
26	45	—	M.	1	0·12	Tissues in front of forearm.
27	34	—	A.	7	0·77	Sinus of foot.
28	42	—	A.	8	0·73	Sinus of finger.
29	37	—	A.	14	0·81	Ulcer of sole.
30	35	—	A.	8	1·25	Sinus of foot.
31	44	—	A.	7	1·06	Swelling of finger from necrosis.
32	42	—	A.	5	0·48	Swelling of finger from necrosis.
33	39	—	M.	2	0·19	Sinus of foot.
34	30	—	M.	6	0·41	Sinus of foot.
35	52	—	T.	5	0·29	Swelling of foot.
36	20	—	M.	7	0·82	Swelling of finger.
37	—	41	T.	2	0·69	Exuberant granulation of foot.
38	52	—	M.	1	0·25	Tubercles of face.
39	—	41	T.	3	0·68	Sinus of great toe.
40	—	21	T.	8	0·69	Tuberculated thickening of hand.
41	18	—	T.	1	1·00	Tubercles of nose.
42	56	—	M.	18	1·56	Tuberculated thickening of hand.
43	37	—	M.	5	1·31	Sinus of toe.
44	11	—	T.	2	0·41	Swelling of ball of toe.
45	36	—	T.	11	0·63	Tissues in front of forearm.
46	—	14	T.	1	0·50	Tissues in front of forearm.
47	41	—	M.	4	0·83	Infiltrated tissue of leg and foot.
48	57	—	M.	11	0·79	Ulcer of toe.
49	45	—	T.	10	1·87	Ulcer of leg.
50	41	—	M.	5	1·09	Swelling of leg.

Average percentage of fibrin in 16 tuberculated lepers	0·78
" " " 21 anæsthetic "	0·79
" " " 13 mixed "	0·72
Average percentage for the 50 observations	0·76

[1] Path. Soc. Trans., vol. xxxviii., p. 120.
[2] Traité de la Spédalskhed, pp. 238, 296.
[3] Ann. de Dermat. et Syphilog. (Paris), tome v., No. 3.
[4] THE LANCET, Sept. 25th, 1886, p. 581.

CANCERS IN UNUSUAL SITUATIONS.

BY CHARLES STEELE, M.D., F.R.C.S.

CASE 1. *Scirrhus of Tonsil.*—Mr. H. N——, aged fifty-five, consulted me in February, 1886, concerning his left tonsil, which felt full and uncomfortable. I had attended members of his family for several years, but he had never required medical attendance during that time; in fact, he was a remarkably healthy gentleman, of a cheerful, bright nature, and took a great deal of walking exercise. The tonsil was enlarged, having a smooth flat surface as large as a penny curling over on its anterior edge, very firm to the touch. There was also a visible fulness under the ear. I entered it "malignant?" in my notes. He turned to me and said, "Tell me, is it cancer?" I asked what should make him think so, and he replied, "Because my father died of cancer." I told him that I should wish to try absorbent but non-irritating treatment before arriving at a definite conclusion, but that its nature was questionable. He had some round red spots on his forehead, and frankly owned to chancre in early manhood, and his mind was relieved by the idea of treatment bearing upon that basis being adopted. The spots cleared away, but the tonsil remained unaltered for a month. This treatment was discontinued because the swelling under the ear started rapid growth, extending both in circumference and also outwards beyond the level of the ear. Swallowing gradually became difficult; he refused to go out of doors, lost flesh and appetite, and was reduced to a fluid diet. The tonsil did not enlarge much more, but the curled edge became more prominent. Development of disease was in the soft parts outwards. Large veins showed themselves, the mass extended backwards almost to the nape of the neck, the growth extended two inches beyond the level of the ear, dark, hard prominences formed; and eventually ulceration took place exactly as in a scirrhous breast. Sloughing took place, leaving a wide deep cup, in which hæmorrhages, at first slight, but eventually severe and sometimes arterial, occurred, but were checked by the local application of perchloride of iron, while other styptics failed. He became confined to his bed, and died in September. The medicine which gave him relief, and which he took for some months, was tincture of hydrastis, in one-minim doses three times a day. When I increased the dose to ten or even five drops he refused to take it, and would fall back on the minim doses. The fulness of the tonsil was what he first noticed in January, then the swelling under the ear; but he put off calling to see me in consequence of his dread of being confirmed in his impression that the disease was really cancer. Yet he was imperative as to a frank reply to question, and, when the specific course of treatment failed to make an impression, I was obliged to confirm his fear. Dr. Greig Smith saw him early in consultation with me, and we were perfectly agreed that the idea of removal could not be entertained, on account of the extension into surrounding parts and involvement of bloodvessels and nerves. Duration of disease nine months.

CASE 2. *Scirrhus of the Vagina.*—Mrs. K——, a widow, aged forty-six, consulted me in October, 1889, on account of discomfort in the lower part of the abdomen and slight vaginal discharge. She had two children, aged seventeen and eighteen, and had not ceased to menstruate. Although she looked healthy and in good condition, indications made me desire an examination, to which she demurred, considering that she was suffering from leucorrhœa only; but on my representing that it was absolutely necessary, she consented. I found the vagina to consist of a flattened tube of dense tissue, which felt like cartilage. Both bleeding and pain resulted even upon my turning my finger gently. There was a small nodule on the os uteri. The growth at that time did not extend in front to the meatus urinarius; micturition was natural. Little increase occurred for a month, then extension on the right side into the pelvis took place, producing neuralgia in the right anterior crural nerve, then lameness, and swelling below Poupart's ligament. Continuous pain set in, accompanied by feverish constitutional disturbance, and dryness and redness of the tongue; and a cold abscess gradually formed and extended from the trochanter major to the adductor brevis, and rendered by its internal influence regular catheterism necessary. Great relief was afforded by my drawing off the pus with a trocar, and natural micturition was restored. Restlessness and sleeplessness rendered a sedative necessary, and sulphonal suited her well until her death, which occurred in May. It was not until the fourth day that I could gain consent to make a post-mortem examination, and the weather being hot, decomposition had commenced. I took out the vagina, uterus, and appendages, with the involved surrounding parts, and found the vagina hypertrophied uniformly except at the right side, where the disease had extended and embraced the anterior crural nerve. The uterus had one small nodule on the anterior lip and another more recent one in the fundus. The ovaries were free. The specimens were too decomposed to show anything by microscopic examination, though submitted to it at once. This disease clearly commenced in the vagina, and the uterine deposits were secondary. The abscess being manifestly caused by pressure on the anterior crural nerve is a confirmation of the dictum that abscesses are caused by depressed nervous function. Known duration of disease nine months.

CASE 3. *Cancer of the Meatus Urinarius.*—Five years ago a gentleman who consulted me several times from a distance told me that his wife's health caused him much anxiety; that she frequently passed blood, but would not hear of her medical attendant examining her properly. A few months afterwards they came to reside here, and I was asked to visit the lady, aged sixty. I represented to her that an examination was essentially necessary, and that, if the cause of her hæmorrhage was a serious one, delay might render her case hopeless. She consented, and immediately my finger entered the vulva it impinged upon a mass of cancerous excrescence, which surrounded the meatus urinarius and extended backwards to half an inch from the bladder. I urged immediate removal while I could get beyond the disease and save the sphincter of the bladder. Both the husband and wife consented, and I removed the mass entirely with the écraseur, leaving nothing but sound tissue beyond. The case did well. For a time urine was passed through a retained indiarubber catheter, but this was removed as soon as cicatrisation was sufficiently established. Power of retention was gradually gained, except that when the patient sat in a perfectly upright position a little urine was always voided. She has remained free from any recurrence ever since. During convalescence this case was complicated by the gradual formation of an abscess on the front of the leg, half way between the knee and ankle, which was opened, and did well. The disease was epithelioma.

Clifton.

A RARE FORM OF SKIN ERUPTION.

BY H. R. KENWOOD, M.B., L.R.C.P., D.P.H.

AN extremely interesting case of an aberrant form of urticaria has been under my supervision for some years, and it serves to sustain in a striking manner the now generally accepted theory that this disorder is due primarily to a direct or reflex irritation of the peripheral vaso-motor system, in which contraction, followed by a partial paralytic dilatation of the cutaneous vessels, determines the exudation of lymph with the production of wheals. It must be held, however, that each sufferer from the complaint possesses a hyper-sensitive condition of the vaso-motor system, so that more or less trivial causes will suffice to disturb its balance. A severe body-chill has always furnished the exciting cause in this case, and after careful and thorough investigations the most absolute negative evidence of any concomitant derangement, either of the digestive, nervous, or reproductive systems, has been forthcoming. The urine has, however, always had its colour and acidity somewhat accentuated, but there has been no albuminuria or lithuria. The patient, who is now twenty-five, first noticed "swellings" when between seventeen and eighteen years of age, and they have since recurred on almost every occasion upon which she has caught a violent chill. She has always enjoyed excellent health and is of a slightly florid complexion. The eruption mainly consists of wheals, which are sometimes six inches in diameter, and are generally discovered on the third day after the chill (that is to say, when the other effects of "the cold" have somewhat spent themselves). These may occur anywhere about the body; the lips and eyelids (especially the lower) are frequently attacked, and the pharynx is said to have been

involved on an occasion during which I did not see her. Over the area on which a wheal is about to form the following sequence of events has been invariably noticed by both the patient and myself. The area at first suddenly assumes a slight red blush, sometimes bright like erythema, but generally of a somewhat duskier hue, and at this stage a faint "tingling" pain manifests itself. When the spot is rubbed by the patient or myself—and in all other cases the necessary friction or pressure is doubtless given by clothes, &c.—the centre rises, becomes blanched (relatively), and then extends rapidly by an indefinite border until it reaches the limits of its extension, by which time a faint red line is seen to surround a paler swelling. The tingling sensation is at all times slight, is greatest in the stage immediately preceding the swelling, and then diminishes, to disappear entirely when the wheal has reached its maximum development. At this later stage there are no subjective sensations of any kind which would tell her of their presence so long as she remains at rest, and does not rub or press them. The swellings last in bad attacks two days; but they have come and gone in two hours, leaving in no case any trace whatever of their existence, and we have both succeeded in some cases, but only early in the attacks, in producing wheals by friction over areas which have appeared perfectly normal. Apart from the slight discomfort accompanying "the cold," the patient feels perfectly well and in good spirits.

What marks the case as one of exceptional interest, however, is the fact that some of the swellings have frequently assumed the characters of a condition which has been described (by Quincke and Rapin notably) as "acute circumscribed cutaneous œdema"—that is, there have been present, I may say in *most* attacks—three or four on an average—œdematous tumefactions of the skin and subjacent tissue, of firm and knobby consistence, with ill defined borders, and possessing a slightly pale hue relatively to the adjacent skin; which tumours pit (almost imperceptibly, it is so slight), upon pressure. Their favourite sites are the skin over the deltoid muscle of the arm and that over the region of the buttocks. The swelling of the tongue which accompanied a recent attack was due to one of them. They have never been, in any case which I have had the opportunity of investigating personally, less than two inches and a half in their longest diameter, and have generally shown a tendency to assume an oval shape. The largest had a diameter of over six inches, and was situated upon the buttocks, with its centre over the tuber ischii. Their near relation to the urticarial wheal is manifest from the closely similar sequence of changes during their development; from the almost equal rapidity in which they appear and disappear, and from the fact that in this case a common cause induces both to appear. As in the wheal there is at first a blushing of the area, followed by rapid swelling, which quickly spreads the while it grows paler and becomes eventually surrounded by a slightly—very slightly—reddened zone of skin. The borders of these hard swellings are not well-defined, and almost evanesce into the adjacent skin, and there are no subjective symptoms accompanying them when matured, not even one of tension.

How unlike typical acute urticaria the condition is, even if the presence of the hard tumours be excluded, is at once manifest from the absence of all evidence of any, even faint, constitutional disturbances of the nature which generally accompany that condition; the number and size of the wheals, many of which quite reach in the latter respect the proportions found in "urticaria gigans"; the seasonal prevalence of the disorder, most marked in the winter, whereas in acute urticaria by far the greatest incidence of attack falls in the spring and summer; the extreme faintness of all subjective sensations, and their total absence after the swellings have formed; while in acute urticaria the itching, tingling, and pricking sensations generally occur *with* the eruption, in a marked degree, and there is a craving to scratch. The case appears to me to be a hybrid of three conditions: (1) Common acute urticaria, (2) urticaria gigans, and (3) acute circumscribed cutaneous œdema. The patient has felt slight, obscure, and wandering muscular discomfort at times, which may be attributed to chronic rheumatism, though she has never had acute rheumatism, nor is there any parental history of the disease. She is somewhat of the "rheumatic constitution." Although for a time I was inclined to think that drop doses of aconite hourly exercised the greatest influence in limiting the duration of the rash (even more so than the salicylate of sodium of which I had read), I have since had ground to believe that a mixture of the latter salt with iodide of potassium has been more successful. It is difficult, however, to say anything definite upon the results of different treatments, as the duration of the condition, in spite of drugs, would appear in this case to bear a direct relation to the magnitude of the exciting cause; that is to say, it is the severity of the chill—a difficult factor to reckon with—which chiefly determines the severity and persistence of the condition, and therefore in different attacks it is impossible to tell what their duration would be apart from the treatment employed.

Denbigh-place, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF ILEO-CÆCAL INTUSSUSCEPTION IN A MALE INFANT AGED NINE MONTHS.

By T. CUMING ASKIN, M.D.

A SHORT account of this case may prove interesting, as the diagnosis was verified by a necropsy. A strong, well-developed male child enjoyed perfect health till the morning of Dec. 4th, 1891, when, while crawling on the floor, he was suddenly seized with great pain, which made him cry out. His mother said the bowels moved soon after, and the motion contained nothing but blood. The pain did not recur, but the child seemed heavy and stupid, and vomiting set in, nothing being retained on the stomach. I saw the child on Sunday evening, the 6th. His face had a pained and anxious expression. Surface of body cold. Temperature 98° in axilla; pulse about 160. Eyes dull, pupils dilated. Abdomen not distended. In the right iliac fossa a tumour, doughy in consistence and freely movable, could be easily and distinctly felt. Palpation did not seem to cause pain. A glycerine suppository was given and brought away a little blood. Bowels had not acted since the 4th. On the morning of the 7th I again saw the child, whose condition then was much the same as it had been on the previous day, except that he seemed weaker. The tumour did not appear to have altered much in position or size, and there was no abdominal tenderness or distension. I advised an operation, but the mother would not consent. I then sent for a pair of bellows, intending to inject air into the bowel, but the child died before they could be procured. The cottage was situated in a very lonely and isolated part of the county, being several miles from any village or town.

The necropsy revealed an ileo-cæcal invagination, about four inches of the gut being involved. The intestine was intensely congested, and I had considerable difficulty in withdrawing the invaginated portion of the gut. The small intestine was moderately distended (this must have occurred within a very short period of death). There was no evidence of general peritonitis.

Alderton, Suffolk.

CASE OF APHASIA.

By D. ROBERTSON DOBIE, M.D. EDIN.

THE following case may prove of interest to medical practitioners and merit insertion in the columns of THE LANCET. By publishing I invite a free discussion of the case, and will leave it to more experienced and intelligent observers to explain how the favourable termination which I now describe came about.

Mrs. H——, aged fifty-six, was suddenly seized with loss of speech, unaccompanied by any paralysis, in January, 1883. I did not at that time see the patient, but I am well aware that she lost her speech completely, and could not utter a syllable. She could read quietly to herself, but was unable to communicate her ideas in writing. She was treated in a most careful manner by a neighbouring practitioner, and was soon up and attending to her household duties. I frequently attended Mrs. H—— when she came into my district during 1883, and subsequently for minor ailments in connexion with the menopause, and I am inclined to think

this had something to do with the seizure. An embolism might be formed in the uterine sinuses and carried onwards to the brain. This is a mere speculative opinion. She could say nothing but "ta-ta" and "tut-tut" from 1883 to 1891, and by signs and gestures lead her husband and family to understand what she wanted. My patient subsequently removed out of my district, and I never heard of her until last month, when she came to consult me and to report the marvellous change which had come about in the following way. On Saturday, Oct. 31st, 1891, she was thrown into a violent passion and much annoyed by her daughter, with whom at times she does not get on very well, and the strife lasted a considerable time. After the storm had blown over she felt a severe pain in the head, and after a short interval she found she could speak perfectly well and give expression to her feelings as plainly as ever she did in her life. As was to be expected, the sudden change caused great consternation in her household and struck terror into the hearts of her neighbours. I had a long conversation with my patient a fortnight after the occurrence, and was most interested in her story. She is an intelligent woman and for nine years had been unable to give utterance to her thoughts. I have recorded this case at some length because I believe it to be unique, and so far as I can learn no such sudden and complete restoration of speech after so long a period of silence has ever before been recorded.

Coldstream, N.B.

SOFT PAPILLOMA OF EAR OF SUSPECTED INFECTIOUS ORIGIN.

By ROBERT LAKE, F.R.C.S.

NEW growths of the external ear are, when compared with other affections of that part, somewhat uncommon; thus there did not occur more than a single case, and that not correctly speaking a growth, in 1146 consecutive cases in the aural department of St. Thomas's Hospital.[1] The general position of the one described below is the usual seat of the soft variety of papillomas,[2] the hard ones being also found in other situations.

The patient, a girl of short stature, aged seventeen, of dull appearance, had been subject to ostitis media purulenta for two or three years; no cause was known for its having originated. For some weeks there had been severe pain in the ear; the discharge was most horribly offensive. On examination of the affected ear (right), the meatus was found closed by three pinkish masses, which were at first believed to be purulent collections in the subcutaneous tissue. One mass covered the posterior surface of the tragus up to the entrance to the canal; the next one sprang from the inner surface of the antitragus; the third and largest, fully half an inch across, grew in that part of the concha adjacent to the canal, proceeding down that also for a few lines. The whole mass was covered with epithelial detritus and pus. The patient was anæsthetised, and the whole mass thoroughly scraped away with a curette. It was soft and bled freely; the raw surface was rubbed with a solution of chloride of zinc, sixty grains to the ounce of water; the middle ear was well disinfected and also the Eustachian tube, which was so patent that fluids flowed easily down it when the ear was syringed. Healing rapidly progressed, the raw surface being scarcely recognisable in two weeks' time.

Remarks.—Although the odour and appearance of the growth were so suggestive of gonorrhœal warts, yet no history of infection could be arrived at, and unfortunately no cultivations were made, hence the question arises whether the irritation causing the growth was an infective one or merely due to the acrid character of the discharge. The theory of infection is to a certain extent borne out by the fact that the growths on the tragus were obviously secondary to that on the concha, for whilst their surfaces were in contact their bases were free. Dr. Payne has shown[3] that simple warts in other parts are sometimes infective, so the infection was not necessarily from the gonococcus. To the free patency of the Eustachian tube is due the absence of symptoms from plugging of the meatus externus.

Barnes, S.W.

[1] St. Thomas's Hospital Reports, 1889-1890.
[2] Gruber, p. 313.
[3] British Jour. of Dermatology, vol. iii., No. 6.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

A CASE OF COLLAPSE FROM VOMITING AND DIARRHŒA TREATED BY INTRAVENOUS INJECTION OF SALT SOLUTION.

(Under the care of Dr. STURGES.)

THIS case is a most important addition to those which have already been published as to the efficacy of the injection of saline solutions where excessive loss of blood, or of the watery constituents of the blood, has taken place. It will assist in bringing before the profession in a most convincing manner the value which the treatment has in some apparently hopeless cases. Dr. B. W. Richardson[1] has drawn the attention of the readers of THE LANCET to the effect produced by the injection of a saline solution into the veins of a woman who was moribund from cholera collapse. "She became quite conscious, sat up in bed, and signed a short will." The improvement was, however, only temporary, and required to be repeated, but each repetition was followed by the renewal of diarrhœa and cramps, and the patient died some hours later. Mr. Lane's[2] experience, which was also published in THE LANCET, was derived from a case of secondary hæmorrhage and collapse after an operation for cleft palate on a girl of thirteen. The results were almost miraculous, and the child rapidly recovered. He injected three pints and a half of common salt (one drachm to the pint) into the basilic vein. We have also recorded a case under the care of Mr. Anderson[3] of Nottingham, in which a fatal result from secondary hæmorrhage was apparently prevented by the intravenous injection of a solution of common salt, forty grains to the pint. Eighteen ounces of this were injected, and although at the time very collapsed, within two hours "he was able to sit up and ask for his tea." An injection of twelve ounces of similar fluid was required next day after an operation to secure a wound in the popliteal artery from which the hæmorrhage had come. This was again followed by satisfactory results, and the patient, a lad of sixteen, recovered. The injection of ten ounces of a solution of phosphate of soda, twenty grains to the ounce, was employed in a patient almost moribund from loss of blood due to wounds of the neck, with immediate benefit. Before the injection the pulse was quite imperceptible at the wrist, the pupils dilated and fixed, and the conjunctivæ insensitive. A case in which much benefit of a temporary character was obtained is also recorded in our columns. It was that of a man aged fifty-four, under the care of Dr. Churton, who from excessive vomiting due to cancer of the stomach became prostrate and pulseless. Here again the improvement was very marked whenever the injections were used. Dr. Churton's remarks on his case are interesting. We have referred to the experiments of Messrs. Dastre and Lange, who say that the expression "toxic dose" has no meaning so far as the salt solution is concerned. There is no such thing as a toxic dose, but there is a toxic rapidity. Their experiments are important, and will be found in detail in the *Archives de Physiologie*. For the notes of this case we are indebted to Mr. Horace Collier, house physician.

W. H——, aged nine months, was admitted to the Hospital for Sick Children, Great Ormond-street, on Oct. 26th, 1891. For four months he had been under care as an out-patient for congenital syphilis and rickets, with several attacks of diarrhœa. He was, upon admission, cold, pale, shrivelled-looking, completely quiet, and with sunken eyes and hollow-looking orbits. The history was that there had been severe diarrhœa and repeated vomiting for two days.

The child was at once rendered warm, and brandy

[1] THE LANCET, vol. ii. 1891, p. 701. See also the Asclepiad, 4th quarter, 1891, p. 335.
[2] Ibid., vol. ii. 1891, p. 626. [3] Ibid., vol. i. 1889, p. 929.

and meat-juice were administered in small quantities. Eight hours later the patient was still more collapsed, and appeared to be near death. He had vomited frequently since admission. The house physician exposed the left external jugular vein, where it was superficial to the sterno-mastoid, and slowly injected with a double-nozzled syringe twelve ounces of distilled water containing thirty-six grains of common salt and rather more than a drachm of brandy, the temperature of the solution being kept at 101°. The reaction appeared before the operation had been completed, the pulse becoming bounding, the face flushed, the skin hot, and the child very restless. The temperature was 104·8° three hours later; it remained at this level for two hours, and gradually and almost regularly fell, reaching 98·6° thirty-six hours from the time of the injection. The very marked restlessness was combated with opium. The child vomited once only after the operation. The diarrhœa was treated with grey powder and the compound ipecacuanha powder, and the patient showed no further complication and recovered.

Remarks by Mr. COLLIER.—The shrunken appearance and sunken eyes of such a patient show how wanting in fluid the tissues are; and if, as in this case, owing to the condition of the mucous membrane of the stomach and to the frequent vomiting, the absorption of fluids from the alimentary tract becomes greatly interfered with, it appears rational to make an intravenous injection. This case illustrates well the immense value of saline injections, the revival of the practice of which we owe to the late Dr. Wooldridge and to Mr. Arbuthnot Lane.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

TWO FATAL CASES OF LORETA'S OPERATION.

(Under the care of Mr. PAUL SWAIN.)

THE operation of digital divulsion of the pyloric orifice of the stomach has been performed many times since the account of the first operation by Loreta was published in THE LANCET.[1] These examples of this method of operating show that the procedure is attended with some considerable risk. The first patient died with a return of vomiting on the fifth day, the second from collapse four hours after the operation. An important thing in the second case is the condition of the pylorus as found at the necropsy. Loreta is reported to dilate the opening until his fingers are three inches apart. Here the stretching was very much less than that, and yet a complete rupture of the wall was found. Dr. Barton[2] gives a mortality after this operation of 40 per cent., whilst Dr. Ball[3] estimates it at 33·3 per cent. Dr. Weir,[4] in a clinical lecture, strongly recommends the performance of gastro-enterostomy in simple pyloric stenosis in preference to the operation for the relief of the condition recommended and practised by Loreta, giving a mortality of only 11 per cent. in such cases. The improved methods of performing it have certainly lessened the risk which formerly attended this operation. For the notes of these cases we are indebted to Mr. W. Gifford Nash, late house surgeon.

CASE 1.—Eliza T——, aged thirty, who has had three miscarriages but no children, was admitted under the care of Dr. Prance on March 17th, 1890. She stated that two years previously she first suffered from vomiting and pain after food, the pain not being relieved by vomiting. For three months she had been losing flesh, and for six weeks had suffered much from pain in the stomach and vomiting after food.

April 4th.—The patient has been sick two or three times daily since admission, the vomit consisting of curdled milk. The right kidney is mobile, and the abdominal aorta pulsates very forcibly. There is no abdominal tumour.

May 9th.—For a week has been passing dark, clotted blood in her motions.

16th.—There is some thickening of the structures overlying the abdominal aorta.

23rd.—Mr. Swain examined the abdomen under methylene, and in the left half of the epigastrium found a resisting mass apparently connected with the stomach. Splashing was obtained in the stomach.

June 1st.—The patient suffers much from headache and nausea.

27th.—She goes home to-day unrelieved. She has been treated by dieting and all kinds of drugs.

Aug. 5th.—She was readmitted under Mr. Swain for constant vomiting, coming on about half an hour after taking food. The vomit, which is never offensive or copious, neither contains sarcinæ nor blood. There is still some thickening in the left half of the epigastrium. She is losing flesh.

17th.—Under methylene, followed by A.C.E. mixture, an oblique incision was made parallel to and one inch below the left costal margin, commencing in the middle line. The stomach was found, and a two-inch incision was made in the greater curvature, commencing an inch and a half above the pylorus. The pylorus was thought to be thickened. Its orifice was searched for, and found after a long search; it was contracted down to the size of a goosequill. The muscular wall was not indurated and the mucous coat ulcerated. The little finger was first forced through and the opening further dilated so as to admit two fingers with ease. The stomach wound was closed with fifteen Czerny's and fourteen Lembert's sutures. The abdominal wound was then closed with silkworm gut. The patient was fed with peptonised nutrient enemata. She was frequently sick for the first three days after operation, the vomit consisting of grumous fluid. On the fourth day a teaspoonful of milk and soda-water was given every hour. On the fifth day vomiting returned, and the patient gradually sank from exhaustion.

Necropsy.—There was no peritonitis, and the stomach wound was firmly closed.

CASE 2.—Maria H——, aged thirty-seven, a single woman, was admitted under the care of Mr. Swain on June 23rd, 1891. She stated that ever since childhood she had been subject to pain in the stomach and vomiting of food, sometimes directly after a meal, and at others some hours later. At times she has gone for months without vomiting at all. She has lived on milk for a month at a time, and has improved under it. During the attacks of vomiting and pain she rapidly lost flesh and as rapidly improved when the vomiting ceased. She has never been so thin as now. At the age of fourteen she had an attack of ulceration of stomach which nearly proved fatal. For fifteen years or so she has vomited altered blood, and for one year noticed a stationary lump in the abdomen. The bowels acted regularly until two months ago, but since then have been constipated. On admission, the patient was a very pale, emaciated woman. On examining the abdomen there was an evident fulness below the level of the umbilicus, chiefly on the left side. The dilated stomach, or what appeared to be it, was situated in the hypogastric, umbilical, left lumbar, and iliac regions. The great curvature lay in the hypogastric, left lumbar, and iliac regions just above the pubes and Poupart's ligament. The pylorus lay just below the umbilicus, and the cardiac end just below the ninth costal cartilage. There was a tender mass just below the umbilicus fixed to the anterior wall of the pyloric end of the stomach. Splashing was easily obtained. The tympanitic stomach note was obtained over the area above mentioned, and above it appeared the transverse colon. There was a resonant note over the normal position of the stomach, but this was not so tympanitic as over the displaced stomach. The stomach was washed out daily with boracic solution. It easily received forty ounces of the solution. The mucus washed out was tinted brown, and contained torulæ and sarcinæ. The patient vomited about a third of a pint of brownish fluid two or three times daily. She suffered great pain, requiring frequent injections of morphia, and notwithstanding being fed by the mouth and rectum continued to lose flesh.

On July 4th, the stomach having previously been washed out, chloroform, followed by the A.C.E. mixture, was given, and an incision three inches long made in the left linea semilunaris, about midway between the umbilicus and pubes. What appeared to be the dilated stomach was at once exposed, nothing being seen of the great omentum. The lump proved to be a coil of small intestine, adherent to the front of the pyloric end of the stomach. The pylorus was felt to be thickened and constricted. The stomach was opened by an incision two inches and a half long in its anterior wall and the pylorus easily found, admitting the tip of the index finger with difficulty.

[1] THE LANCET, 1883, vol. ii.
[2] Transac. of Americ. Surg. Assoc., 1890.
[3] Medical Record, 1890. [4] Medical Bulletin, Phila. 1889.

First one finger, then two were introduced; next both index fingers, and drawn asunder to admit a third. A firm ring or band was felt, and heard to suddenly tear or give way. The wound in the stomach was sutured with a double row of Lembert's silk sutures, and the abdominal incision closed with silkworm gut. The patient was very collapsed, never rallied, and died four hours later, after having vomited a pint of brownish fluid.

Necropsy. — On opening the abdomen the distended stomach was at once seen, and lying in front of it near its pyloric end a coil of small intestine firmly adherent to it. On tracing up the lesser curvature of stomach was found a tube which was at first thought to be the œsophagus. On tracing this further upwards, to the left was found a second stomach, about the same size as the lower stomach, and situated in the usual position. On opening the two dilatations they were both lined with rugæ, and were undoubtedly both parts of the same stomach. The constricted portion, which formed a tube quite two inches long, was the seat of a large firm cicatrix. Near the pylorus was a cul-de-sac about the size of a hen's egg, evidently the seat of an old ulcer. The outer surface of this cul-de-sac was adherent to the coil of small intestine and to the first part of the duodenum. The pylorus was also the seat of a cicatrix. The constriction of the pylorus was partly due to this and partly to the dragging of the cul-de-sac from outside. At the bottom of the cul-de-sac was a slightly elevated ulcer about the size of a shilling. On opening the duodenum it was found to be very thin, and its junction with the pylorus at the back was quite torn through, so that blood and gas were extravasated into the subperitoneal tissue around the pylorus. The upper half of the hour-glass-shaped stomach was empty, but the lower contained dark-brown grumous fluid. The glands of the mesentery were much enlarged, especially those around the pylorus.

Remarks.—Case 1 was treated for ulceration of the stomach from March 17th to June 27th. The symptoms appeared to be increased by a neurosis, of which the pulsating aorta was evidence. When she was readmitted in August she was very weak and emaciated, and although there seemed to be very little chance of Loreta's operation succeeding, still it was felt to be right to give her the only chance. In Case 2 again the patient came under treatment in such a weak and emaciated condition that an attempt was made by rectal feeding to strengthen her for the operation. The hour-glass shaped stomach produced a very interesting and puzzling condition, which was not diagnosed until after death. It showed very well how such a condition is produced by the contraction caused by the cicatrisation of ulcers. Mr. Swain felt that both these cases were, from circumstances over which he had no control, operated on too late.

CUMBERLAND INFIRMARY, CARLISLE.

TWO SURGICAL CASES.

(Under the care of Dr. LEDIARD.)

IN connexion with the cases of conical stump published in THE LANCET of Oct. 3rd, under the care of Mr. Owen of St. Mary's Hospital, the following case may be of interest, as it resembles closely the third described by him, and also one which was under the care of Dr. C. A. Powers. We are indebted to Mr. James B. Bird, house surgeon, for notes of these cases.

CASE 1. *Conical Stump.*—G. M——, a schoolboy aged fourteen years, was admitted into the hospital on Sept. 23rd, 1891. He had the left upper arm crushed seven years ago, and it was amputated some distance above the elbow. A conical stump resulted some years later, and three years ago Dr. Lediard resected the humerus, leaving ample flaps. On admission the patient complained of the stump, which on examination proved to be conical, the bone protruding at the apex and causing pain. The skin was adherent to the bone. The bone protruded about half an inch. There was some pus.

Sept. 25th.—Over two inches of the humerus were removed to-day.

On Oct. 7th the stump had almost healed, and on the 14th the patient was discharged.

The above account shows how active the upper epiphysis of this humerus has been, and it bears out the fact that conical stump is very apt to result in the arm after amputation in boys. It is curious that the bone seems to have grown more rapidly during the last three years than it did during the seven years previously. Unfortunately, it is not known how much bone was removed in the first instance, in proportion to the length of the flaps.

CASE 2. *Necrosis of Sternum.*—A. W——, housewife, aged twenty-two years, was admitted on July 29th, 1891, complaining of discharging sores over the breast-bone. The disease had commenced four months ago, after her confinement, when a swelling was noticed over the middle of the sternum. This swelling burst, and had discharged pus up to admission. When the patient was admitted she was found to be a healthy-looking woman. There were three discharging sinuses in the mid-sternal region. Dead bone was felt when the sinuses were probed. On Aug. 7th the sternum was exposed by an incision through the soft parts, and after gouging for some time, two somewhat flattened sequestra were removed, one being over an inch in length, and the other about half an inch. The wound was plugged, and the case has since progressed favourably. The sequestra were lying loose in this case, one being about the middle of the sternum, and the other higher up. Mr. Erichsen, in his "Science and Art of Surgery," does not remark that these cases are rare, but one does not see them very often in practice.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Tubercular Ulceration of Tongue.—Sarcoma of Duodenum.—Pathological Conditions in the Breast associated with Carcinoma.

AN ordinary meeting of this Society was held on Jan. 5th, the President, Sir George M. Humphry, being in the chair.

Mr. CHARLES A. MORTON of Clifton showed a specimen of Tubercular Ulcer of the Tongue from a man aged fifty-five, under the care of Mr. Penny, in the Bristol General Hospital. The ulcer had almost healed, but was beginning to break down again when the man died of phthisis. The ulcer was at the tip of the tongue. Several minute ulcers formed and coalesced. There was less induration than in an epithelioma. Microscopic sections showed the tissue infiltrated with small, round, and giant cells containing numerous tubercle bacilli. The tubercular growth extended quite half an inch below the ulcer, showing the need of free removal in these cases if excision be performed, although the base was not indurated. The submaxillary glands were caseous. There was advanced pulmonary and laryngeal phthisis, also tubercle of an epididymis. The author did not think the phthisis could have been produced by the inspired air passing over moist tubercular discharge, but more likely by inoculation of an abrasion on the tongue from rough teeth by bacillary sputum; or that the ulceration on the back of the arytenoids had been caused by swallowing the discharge from the ulcer, and that the disease had then spread into the larynx and lungs.—Mr. MORTON likewise showed a specimen of Tuberculous Ulcer of the Tongue, excised by Mr. Munro Smith in the Bristol Royal Infirmary, which he had examined microscopically and found the same appearance as in the first case, except that instead of there being as many as a dozen bacilli in a single giant cell, he only found three in ten sections, each one in the centre of a giant cell. There were signs of phthisis at one apex. The submaxillary glands were slightly enlarged. This ulcer was also close to the tip, between it and the floor of the mouth; a smaller one existed by its side. The man was aged thirty-four, and the ulcer was of six months' duration.—Dr. PENROSE remembered seeing a case in a child, in which he demonstrated the presence of tubercle bacilli. There was no local condition, such as rough teeth, to account for the presence of the lesion. It was situated at the back of the tongue, close to the epiglottis, and both larynx and lungs were found to be tubercular.—Dr. HADDEN recalled a case which he had described in the Society's Transactions in 1883. Later Mr. Barker had been through the literature of the subject, but he had failed to find a case in a child. Since then the speaker had seen many instances of tuber-

cular lingual ulceration, in some of which that affection appeared to be the initial tubercular lesion. Often a local predisposing condition was observed to be present.—Mr. SHATTOCK referred to Mr. Butlin's suggestion of scraping these ulcers for purposes of diagnosis, and he asked the author if he thought that this proceeding would have aided in elucidating the cases under discussion.—The PRESIDENT thought that the rarity with which the tongue was attacked by tubercle depended on the thickness of its epithelial covering, which was greater over this organ than at any other part of the digestive tract.—Mr. MORTON, in reply, said that the site of infection was probably usually an abrasion, the anterior part of the tongue being frequently nipped between the teeth or damaged by traumatism, as, for instance, in one case a man was attacked by tubercular ulceration of the tongue who was in the habit of carrying tin tacks in his mouth. He thought that scraping should prove of value in aiding diagnosis.

Dr. ROLLESTON showed a specimen of Duodenum, in which the mucous membrane of the first, second, and commencement of the third part was greatly altered; the surface was raised and rough, from the presence of plaques of material resembling hardened Peyerian patches. This growth was ulcerated, and, in the region of the biliary papilla, and again at the commencement of the third part, there was considerable destruction of tissue. In the latter situation there was a cavernous ulcer passing under the pancreas; its walls, rough and irregular, were formed of muscular coats infiltrated with growth. On the floor of the ulcer the inferior pancreatico-duodenal artery was exposed and eroded. The pancreas was not infiltrated with growth, but was expanded over infiltrated and enlarged glands at its head. The mesenteric glands, and those in the portal fissure, were enlarged and infiltrated with growth, but there were no enlarged glands elsewhere, and no growths in the liver, spleen, or rest of the intestine. The stomach and small intestine contained a large quantity of recently extravasated blood. Microscopically the submucous coat was seen to be the part primarily affected with a growth composed of small and medium sized round cells; their nuclei were relatively large to the scanty surrounding cell substance. Between the cells delicate fibrillæ and coarser strands of fibrous tissue, probably derived in part from the tissues invaded by the growth, could be made out. The growth infiltrated the muscular coats and passed up to the mucous coat. The latter had disappeared from the greater part of the duodenum, and its place was taken by growth with some blood channels devoid of proper walls. The growth had some of the characters of a lympho-sarcoma, but was limited to the duodenum and its adjacent glands. Dr. N. Moore, in the thirty-fourth volume of the Society's Transactions, had described a case of lympho-sarcoma limited to the duodenum. The specimen was taken from a patient thirty years of age, who had died in St. George's Hospital under Dr. Whipham of hæmatemesis.

Mr. RAYMOND JOHNSON read a paper on Pathological Conditions of the Mamma associated with Carcinoma. His investigations had been undertaken with the object of ascertaining whether pathological evidence could be obtained indicating the propriety of the complete removal of the whole organ in cases of carcinoma. The condition of the breast tissue had been carefully ascertained by naked-eye examination and the use of microscopic sections. From a practical point of view, it was very convenient to divide carcinoma of the breast into two varieties, the nodular and the infiltrating. The infiltration of the gland might arise through the lymphatic, and also probably by a widespread carcinomatous change affecting the glandular tissue. Specimens and drawings were shown exhibiting both these processes. In a case of infiltrating carcinoma in a woman aged twenty-six years, microscopic examination of parts of the breast appearing normal to the naked eye revealed masses of cancer cells apparently lying in lymphatic spaces. On the other hand, in another specimen of the infiltrating variety the microscopic appearances strongly suggested that a widespread carcinomatous change was involving the whole organ—sections showing the new growth arranging itself around the small ducts, which were themselves apparently normal. In this paper, however, attention was especially directed to the nodular form of the disease. In the case of a woman aged thirty-four years a small nodular carcinoma was situated at the axillary border of the left breast. After removal, two small nodules were found at the sternal end of the breast, each having the typical structure of glandular carcinoma, whilst microscopic examination of the central part of the gland showed marked changes in the epithelium, to be described later. Reference was then made to the nodules described by Heidenhain in the fascia over the pectoral muscle, and a drawing was shown of such a nodule invading the muscle at a distance from the tumour itself. Small cysts in the breast tissue were not uncommon, but no evidence was obtained to show that their relation was more than accidental, cysts being common at the age at which cancer is common. Possibly, however, such cysts might arise as the result of the blocking of the ducts by the growth of the tumour. With the microscope changes were often found when the naked eye gave no evidence of disease. Thus in one case the microscope showed invasion of remote parts of the breast through the lymphatic spaces as in the infiltrating variety of the disease. More common, however, were proliferative changes in the epithelium of the acini. The latter were somewhat dilated, and more or less blocked by masses of swollen, faintly staining cells, often with indistinct outlines. These changes were well seen in a small indurated area excised by Mr. Godlee from the centre of the breast of a woman aged forty years. The condition was probably of the nature of a chronic inflammation, and there were no signs of tumour formation. Specimens were also shown exhibiting these changes in breasts the seat of carcinoma, as well as in the breast of a lady whose opposite breast had been excised by Mr. Berkeley Hill for carcinoma several years previously. It was suggested that these proliferative epithelial changes probably stood in the same relation to cancer of the breast as chronic superficial glossitis did to cancer of the tongue—viz., it represented a possible precancerous condition. The conditions found in the breast in association with carcinoma were summarised as follows:—(*a*) Gland tissue to all appearances healthy; (*b*) gland tissue atrophied, with large admixture of fat and fibrous tissue; (*c*) chronic proliferative epithelial changes; (*d*) infection of the gland through the lymphatics; (*e*) cystic changes; and (*f*) presence of simple tumour. The conclusion to be drawn from these observations seemed to be that as far as possible all the gland tissue should be removed in excising a cancer of the breast. Breast tissue was liable to be left in reflecting skin flaps from the surface of the gland, at the periphery of the breast, and on the surface of the pectoral muscle. As far as possible all overlying skin should be removed, and the surface of the pectoral muscle should be cleaned, with possibly removal of the superficial fibres. Finally, specimens were exhibited showing fragments of breast tissue left behind in the usual operation of excision, and others showing that such fragments might in some cases at least be the starting-point of recurrent growths. Mr. Johnson expressed his thanks to the staff of University College Hospital for the free use of their cases, and especially to Mr. Marcus Beck, at whose suggestion he had undertaken the observations.

Mr. CECIL F. BEADLES read a paper on some Histological Changes in the Breast found in association with Glandular Carcinoma. He commenced by saying that the condition of the breast tissue apart from the actual carcinomatous tumour appeared to have been little, if at all, investigated. After a careful search into the literature of the subject, he had only found allusions to the subject by Cornil and by Creighton. As a result of microscopical examination of about a hundred breasts amputated for carcinoma, he was able to state that these breasts were never in what might be considered as a normal state, but it was doubtful to what extent the conditions found were dependent on the presence of cancer. He then referred to the frequency with which small carcinomatous nodules might be found at a distance from the larger growth, and having no connexion with it. He then described the changes found in the stroma of the breast lobules, and said there could be seen in different cases all the stages usually described as being present in chronic interstitial mastitis—namely, a small round-celled infiltration, a stroma formed of connective tissue cells, and of dense fibrous tissue, associated with atrophy of the gland acini, or with the formation of cysts. There was often also a marked proliferation of the epithelium within the acini, and when this was considerable the central cells were usually degenerated. A peculiar change found in some gland acini of the breasts affected by malignant disease was then de-

scribed. This consisted in the increase, combined with great irregularity in size of the epithelial cells, some being very large and in character indistinguishable from malignant cells. These were often associated with degeneration of the others, the débris formed by cells and cell secretion being often of a yellowish-brown colour. This condition he looked upon as a stage between simple œdema and glandular carcinoma, which was, in fact, commencing malignant disease. A papilliform change, sometimes found in the epithelium of the ducts, was next described. This presented itself in two forms—in the one, groups of spaces were lined by large columnar epithelial cells, and into these spaces small processes passed from the stroma. This condition he had found in breasts that contained no form of malignant growth. In the other form there was a fine branching intracystic growth of fibro-cellular tissue covered by smaller columnar cells. The process of degeneration could be traced in adjoining spaces, both of the stroma and epithelium. In conclusion, Mr. Beadles believed the changes that he had described in the gland acini were independent of the primary growth, and were probably produced by the same cause as the latter; and he stated that in his experience the direct infection of the breast through the lymphatics was extremely rare, except in the immediate neighbourhood of the growth. These changes in the epithelium might account for recurrences of the disease in some cases, so that very great care should be exercised in the removal of all traces of the mammary gland.—The PRESIDENT said that this was an illustration of the close relation which pathology had to practice. Clinically, though it was not surprising to find cancer localised to one spot, yet its return in a distant part was common. This fact suggested that in many cases disease might be lurking in a distant part of the gland, though it was not to be detected by any ordinary method of examination. He had often noticed that after the removal of a breast for cancer there would happen a recurrence in the neighbourhood in tissue which was not apparently mammary. This, he thought, happened too frequently to be accounted for by the idea that in every case portions of breast tissue had been left behind. He believed these local growths were situated in the connective tissue or in the skin. Mr. Stiles of Edinburgh had been working very carefully at the nature of the tissue which was to be found on the axillary side of the breast, between it and the axillary glands, and he had found that much of the connective tissue of this region possessed a glandular structure which might of itself be the site of recurrence. The results of amputation of the breast had been more successful of late years because of the freer removal of the tissues. The skin was now often much more freely taken away than formerly, the gap left being filled up by cuticle shaved off after the method of Thiersch. He held that this free removal of skin was a very important matter in these operations. He agreed that mammary cysts had no particular relation to cancer. He remarked that the mammary glands were very peculiar organs: they might remain functionless through life, they might be repeatedly and actively functional for limited periods, or one organ might remain entirely functionless while the other was active, and he thought it would be a matter worth inquiry as to which of these three conditions was the most frequent predecessor of cancer. He referred in conclusion to Dr. Creighton's paper on the conditions of the cells of the mammary gland under circumstances of evolution and of involution and their bearings on cancer.—Mr. BOWLBY thought that many of the changes which had been described had nothing to do with cancer. He had examined many breasts taken from persons of middle age not affected with cancerous disease, and he had found similar changes in these also. They all showed involution changes in the ducts, acini, and surrounding tissues. There was proliferation of the epithelium in the acini and ducts; collections of cast-off cells in the acini and small celled growth round both ducts and acini, with formation of fibrous tissue interstitially. These changes would only at the most predispose breasts to affection with cancerous disease. It should be remembered that a cancer growth often spread a considerable distance beyond its apparent limits, and the breast tissue in these subjects was usually so little in depth that a small cancer nodule would lie in relation with both the skin above and the pectoral fascia below. He asked the authors how far from the cancer nodules were these changes found? These papers seemed to suggest that secondary growth, and at a part of the gland distant from the primary focus, was almost sure to follow; but he did not think that this result was nearly so common as had been thought. At St. Bartholomew's Hospital it was the practice of some, if the growth were limited to the axillary border of the gland, to remove the growth only and leave the gland; where this had been done, if recurrence followed, it was usually not in the breast at all, but in the axillary glands. If the tumour lay nearer the sternal side of the breast the remainder of the breast tissue was more likely to be affected, because the lymph stream was directed towards the axilla and traversed the mammary region to arrive there.—Mr. WATSON CHEYNE said that he had examined the specimens prepared by Mr. Stiles and agreed with his conclusions. He felt convinced that cancer spread by growth along the course of the lymphatics rather than by continuous growth along the ducts. The lymphatic plexuses in the mamma were so free that he did not feel justified in adopting partial amputation, even if the growth appeared to be limited to the axillary border. It was of importance always to remove the pectoral fascia, for lobules of the gland penetrated it and lymphatic vessels traversed it. He had examined a large number of small nodules of recurrent growth, and in the great majority of cases they were imbedded in a bit of breast tissue which possessed healthy acini; this again pointed to lymphatic infection.—Mr. JOHNSON in reply said that he was at present engaged in examining a number of specimens of breasts of women between forty and forty-five, and, though he had found changes, these were not nearly so marked as those in several of the carcinoma cases. Where he had referred to tissue examined from a part of the gland remote from growth, it meant that the specimen was taken from the opposite hemisphere of the gland at a distance of two or three inches from the primary growth. He had found the changes which he described in many of the cases he had examined, but not in all.—Mr. BEADLES likewise briefly replied.

The following card specimens were shown:—

Dr. R. G. HEBB: Microscopical Sections of Tubercular Endocarditis.

Dr. H. D. ROLLESTON: Depression of Frontal Bone of an Infant aged nine months.

CAMBRIDGE MEDICAL SOCIETY.

FRIDAY, JULY 10TH, 1891.

Mr. J. H. HEMMING, President, in the chair.

Recurrent Growth of Cornea.—Mr. WHERRY showed a patient with a firm, pale, sessile growth of the cornea and conjunctiva, not quite extending to the edge of the pupil, but interfering a good deal with vision from its projection and altered vascularity. This growth had recurred after removal two years and a quarter ago. A drawing made before the operation showed it more lobulated or papillated in shape. There had been entire immunity during two years. Another operation was proposed and a transplantation of mucous membrane of the lip into the gap. The growth was probably sarcoma. This patient had large flat warts on the back of the left hand of four years' growth, not now spreading; each papilla ended in a fine bristle or hair, not many hairs between the papillæ.

Cases of Deafness treated by Injection of Pilocarpin.—Mr. T. HYDE HILLS read the notes of two cases of deafness treated by the injection of pilocarpin. One was a man aged sixty-five, deaf in both ears, and the other was a lady aged thirty-one, also deaf in both ears. Both cases ran much the same course, the initial injection commencing at $\frac{1}{15}$ gr., and being increased in a few days to the maximum of $\frac{1}{4}$ to $\frac{1}{3}$ gr. Salivation was produced with $\frac{1}{8}$ gr. The treatment was prolonged for about seven weeks in each case, daily, with occasional intervals of one or two days. In the first place (i.e., of the man of sixty-five) the watch was heard before treatment on the right side 3 in., and on the left side 12 in. At the end of treatment the patient heard at a distance of 18 in. on the right and 6 ft. on the left side. In the second case the patient heard the watch on the right side at $1\frac{1}{2}$ in., and on the left at $\frac{1}{2}$ in. At the finish he could hear on the right side 9 in., on the left $3\frac{1}{2}$ in. At the commencement the patient heard a tuning-fork on the mastoid: right 13 in., left 12 in. Both cases gradually deteriorated, and three weeks after treatment were as deaf as before treatment. Another case

which was treated by Mr. Field about the same time, and which Mr. Hyde Hills had opportunity of seeing from time to time, improved for the time, but had exactly the same result. Pilocarpin is said to influence labyrinthine deafness. But certainly middle-ear deafness is also improved. It is difficult to see how pilocarpin can influence cases of so-called labyrinthine deafness. The physiology of the labyrinth is so hopelessly complex and so little known that its (pilocarpin) action there cannot with any degree of certainty be explained. It may be that there may be some change caused in the constituency and specific gravity of the perilymph or the endolymph, which may put things right and allow of effective conduction of vibrations. Or it may be that the fibres of the basilar membrane, or some part of the infinitely delicate membrane of Corti which hitherto has been damped by the accumulation of concentrated secretion, may be set free to respond again to normal stimuli. But of this we have no proof. On it we might theorise *ad infinitum*. But, on the other hand, it seems easy to see how a copious secretion from the aginparous and muciparous glands of the Eustachian tubes could so flush those canals that their walls should no longer adhere, and atmospheric pressure on each side of the tympanic membrane should thus be rendered again equal, and the oscillations of that membrane and the ossicles, and therefore the fluid of the labyrinth, should again be adequate to stimulate the sensitive nerve endings. Or again—and this seems to me most probable—it may be the delicate joints between the ossicles that are influenced. It is easy to see how the joints can be interfered with by deposit, rheumatic or otherwise, and the pilocarpine may so influence them as to set them free to act more efficiently. Iodide, however, seems not to have any such effect.

PLYMOUTH MEDICAL SOCIETY.

SATURDAY, NOV. 14TH, 1891.

Mr. W. D. STAMP (Plympton), President, in the chair.

Exhibition of Cases.—Mr. WOOLLCOMBE showed a man aged fifty-two who nine months before had been successfully injected with pyoktanin for a malignant growth of the right ilium. He now presented an ankylosed hip-joint, but no signs of recurrence of growth.—Mr. LUCY showed a man aged twenty-one with a firmly ankylosed right elbow-joint (the seat of former tubercular arthritis), which nine months ago was riddled with sinuses. Thirty-five injections of Koch's tuberculin were given; the sinuses all healed, and have remained sound after the lapse of six months.—Mr. WOOLLCOMBE showed a boy aged three on whom two months previously he had performed Macewen's radical cure for a Right Congenital Inguinal Hernia. A firm cicatrix was now present, and the invaginated sac could be distinctly felt as a disc closing the internal abdominal ring.—Dr. CHEYNE WILSON exhibited specimens of five new drugs.

Influenza.—Dr. C. R. PRANCE opened a discussion on influenza. After reviewing the various names given this peculiar epidemic, he approved of the German term "epidemic catarrhal fever." He cited the large amount of literature on the subject, dating back to the twelfth century, the contradictory evidence as to influence of season, weather, &c., considering that Europe and the Antipodes were visited at one and the same time, but the general spread of invasion had always been from east to west. The stay of the epidemic in any locality seemed to be a month or six weeks, and adults were attacked more often than children, the strong as well as the delicate, being no respecter of persons or classes. Dr. Prance stated that catarrhal symptoms were more marked in the epidemic of 1847 than in last winter's, but he could offer no theory as to the *materies morbi*. Reference was made to the long-enduring and varied sequelæ, mostly of a nervous character, to the absence of proof of its contagious nature but strong proof of its infectiousness, modified generally though by atmospheric conditions. The differential diagnosis between typhoid fever and influenza was touched on, and in conclusion the lecturer said early recognition and prompt treatment were called for imperatively.—Mr. ELLIOT SQUARE dwelt on the difficulty of diagnosis in the early stage of the disease, and inquired of Dr. Aldridge the frequency of post-influenzal insanity.—Dr. MEENES remarked that Dr. Huxham of Plymouth had written a most graphic account of the disease in 1733.—Fleet-Surgeon ELLIS, R.N., cited the case of influenza breaking out on H.M.S. *Orion* in 1890 as proof of the infectiousness of the disease, they having received off Sumatra several men of the troopship *Himalaya*, on board which influenza was then raging.—Dr. L. FOX said that in China if a traveller calling for a night's lodging had a cough he was told to go elsewhere, proving that the Chinese recognised the infectiousness of influenza. He also cited the outbreak of influenza on board three ships in Brest Harbour in 1890, consequent on the receipt by an officer of a parcel from Paris, where the epidemic then raged.—Surgeon-Captain MYLES, M.S., considered dengue very similar to influenza. The number of engineers who went on the sick list was small compared with the line privates, the pay of the former only being stopped in case of sickness.—Dr. ALDRIDGE (Plympton) remarked that in lunatic asylums the staff more frequently than the patients contracted the disease. He had never found a single case of insanity traceable to influenza admitted into his asylum.—Mr. LEAH found that old and bedridden people were not subject to influenza. An attack was often followed by a second nine months or a year afterwards.—Dr. WILLOUGHBY said that at St. Bartholomew's Hospital during the last epidemic he found that the inmates of beds adjacent to a case admitted with influenza almost always contracted the malady.—Mr. WOOLLCOMBE said that bearing on the question of infectiousness in four of the principal railway companies in England 5 per cent. of the drivers and stokers were attacked, while of the clerks who worked together in the same office 10 per cent. were affected.—Mr. LUCY asked Dr. Prance what he considered the incubation period of the disease.—Dr. PRANCE, in reply, said it was impossible to recognise any definite incubation period, as the onset was so sudden and unexpected.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

WEDNESDAY, NOV. 18TH, 1891.

Mr. A. R. ANDERSON, F.R.C.S., President, in the chair.

Acromegaly.—Mr. LOVEGROVE showed a case of supposed acromegaly in a man aged seventy-three, whose hands and feet exhibited much enlargement and thickening. There was no history of gout or rheumatism, and the thickening was general in all parts of the four extremities.—Dr. HANDFORD exhibited a case of tabes dorsalis with temporary arrest of the disease in a woman of forty-six.

Thrombosis of the Portal and Mesenteric Veins and of the Vena Cava.—Dr. HANDFORD described and showed the specimens from this case, which occurred in a man aged forty-one. He had suffered from deep jaundice for about twelve weeks, when he was suddenly seized with intense abdominal pain, œdema of the lower extremities, hæmatemesis, and frequent bloody stools. The patient rapidly became collapsed, and died within twenty-four hours. The cause of the long-standing jaundice was found to be a carcinoma of the head of the pancreas, which had led to a retention cyst containing about two ounces of clear fluid. The portal veins within the liver were filled with pus. The portion of the portal vein outside the liver was filled with an adherent, firm, partially decolorised thrombus. The mesenteric veins were hard to the touch and firmly plugged with a thrombus which appeared slightly more recent. The vena cava close to the liver was also blocked by a thrombus some days old. The intestines, large and small, contained numerous recent black coagula, which in many instances formed complete casts of the bowel. There were also numerous interstitial hæmorrhages into the coats of the stomach and intestines. Four very similar cases are recorded, in the Transactions of the Pathological Society, by Drs. Fagge, S. West, F. Taylor, and Goodhart in vols. xxvii., xxix., xxxii., and xl.

CREMATION IN FRANCE.—From a report drawn up on the subject of cremation in France recently it appears that, although strictly forbidden by the Roman Catholic priests, the total number cremated during the year 1891 was about 150. In 1889 the number was only 49.

Reviews and Notices of Books.

Lehrbuch der Organischen Chemie für Mediciner. Von Dr. THEODOR WEYL. Mit 11 Holzschnitten. Berlin: August Hirschwald. 1891.

WHEN the hope is expressed that a German work may be speedily translated into our own tongue, the author receives the best compliment an English reviewer can pay him. Dr. Theodor Weyl's manual is an admirable one, and contains not only all that is essential for students of medicine to know, but also information of value to the practitioner, and of service to the chemical teacher. We shall hail with satisfaction the appearance of a translation of this work, that it may be better available for the use of English readers. Works on organic chemistry commonly and properly start with a definition of this branch of the science; and accordingly we read that organic chemistry is the chemistry of the carbon compounds, and not that which deals exclusively with plant and animal products, which were the result, as it was hitherto supposed, of the action of so-called vital force. The plan of the work before us reminds us of the excellent little manual which was edited by the late Henry Watts, and well known as Fownes "Organic Chemistry." Like this work, it is divided into two parts—general and special. The general part—subdivided into nine lettered paragraphs—deals with the usual introductory matter, such, for example, as the qualitative and quantitative analysis of organic bodies, the deduction of formulæ from the percentage composition, the determination of vapour density, Raoult's method for determining molecular weight, structural formulæ, nomenclature, reactions and the physical properties, including the melting and boiling points of organic bodies. The special part is subdivided into two sections, Section I. being devoted to the methane derivatives or fatty group, and Section II. to the benzene derivatives or aromatic group. The chapters of Section I. are distinguished by letters, and the chapters of Section II. by figures. Here we may note that Chapter I, according to the table of contents, treats of acids (Säuren) on page 139. On reference to this page, however, the letter K is found. For I, therefore, should be read K, for K should be read L, and so on through the section, I having by an oversight been omitted. We would draw the author's attention also to the wrong position assigned to many of the multiple numbers attached to the symbols. Thus hydrogen, when acting as a reducing agent on certain organic substances, is represented by H_6 instead of 6H; and again, O_3 is represented instead of 3O. This would represent the action of ozone rather than that of oxygen. The officinal preparations of the German pharmacopœia are strikingly underlined, so that they are made to stand out boldly from the rest of the matter.

Allusion may now be briefly made to some of the more interesting subjects which Dr. Weyl has aptly discussed. The composition of wine, beer, and spirits is entered into pretty fully in the chapter on alcohols, a complete analysis of many kinds being cited. Sulphonal is described under the heading "Sulphonic Acids," and the method of preparation is given, with the equations representing the reactions. In the account of chloroform we do not find any mention of the chlorination of ketones, by which chloroform may be produced. The chapter on fats contains an excellent, though brief, account of medicated soaps, transparent toilet soaps, and their adulteration, emplastra, and unguenta. This naturally leads to a description of the vegetable and animal fats, and the fats used as vehicles in medicine, of which lanoline is a type. The constitution of lecithin, a brain constituent, also finds a place in this chapter. The section on sugars includes an account of Emil Fischer's famous researches on the synthesis of glucose. Official sugar preparations like ferrum oxidatum saccharatum, ferrum carbonicum saccharatum, as well as troschisci and oxymel scillæ, are all referred to in this interesting chapter. Under the starch group mention is made of the use of starch and gelatine in capsules. Antifebrin is described together with the substituted anilines; it is obtained by acting on aniline with acetyl-chloride, when antifebrin or acetanilide and hydrochloric acid are obtained. Phenacetin is included with amido-phenols, being produced from amido-phenol by treatment with acetic acid. It is accordingly known to chemists as p-acetyl-amido-phenetol. Details of the process by which the curious substance saccharin is obtained are given in the section on sulphobenzene acids. Passing on, we come to the pyridin group, under which are very properly discussed the alkaloids, piperidin, piperin, conine, tropine, nicotine, and cocaine. They are, in fact, hydrogen additive products of pyridin C_5H_5N. The synthetic production of inactive conine by the reduction of allyl pyridin is of especial interest in this section. Then follows a section devoted entirely to the alkaloids, an account of the cocaine alkaloids being assigned two pages. This concludes with a short list of the ptomaines, putrescin, muscarin, neurin, &c., and their formulæ. Cholesterin follows closely on the camphors and terpenes; while the essential oils and resins are dismissed in the four concluding pages of the chapter. Under the title of "Animal and Vegetable Substances of Unknown Constitution," cantharidin, bilirubin, urobilin, biliary acids, and protagon are described. The latter, as is known, is assigned the formula $C_{160}H_{308}N_5PO_{35}$. Protein bodies are next discussed, and these of course lead to peptones, ferments, enzymes, and albumen. Finally, comes a terse, though instructive chapter on proteids, divided into glykoproteids and chromo-proteids. Under the former are included mucin and mucoid, and under the latter hæmoglobin and its interesting compounds. The cumbersome formula $C_{628}H_{1026}N_{164}FeS_3O_{181}$ is stated to represent the hæmoglobin of the dog.

Dr. Weyl has obviously dealt ably and in a succinct fashion with a great number of valuable facts, and the pains which he has taken to give a fitting place to a full account of the remedies with which chemistry has lately furnished us will be appreciated by all those who believe that chemistry is not the least of the servants that faithfully minister to the wants of the healing art.

OUR LIBRARY TABLE.

A Handbook of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY, A.M., M.B., F.R.C.S.I., Surgeon to the National Eye and Ear Infirmary, Dublin. Third Edition. London.—We are glad to find that a third edition of Dr. Swanzy's able treatise has been called for in the short space of six months from the issue of the second edition. Well printed, well illustrated, and of moderate compass, it affords just the amount of information that a practitioner who wishes to refresh his memory, or a student who is attending a course of lectures and is dressing in the ophthalmic wards of a hospital, requires. The present edition is larger by about fifty pages than the preceding one, and a few additional woodcuts have been added, raising the number from 148 to 158. In regard to the text it was not to be expected that the author would find any great novelties either in the way of pathology or of therapeutics, considering the shortness of the period that has elapsed since the publication of the last edition. He has, however, made various minor additions, omissions, and corrections, bringing the book up to date. Thus, for example, under the head of "Optic Nerve," he adds

that some, as Ulrick, maintain that in optic neuritis œdema, but not inflammation, of the optic trunk is conducted from the brain. He also mentions that hyaline or colloid outgrowths from the optic papilla are occasionally met with, presenting the appearance of bluish-grey mulberry-shaped nodules. Such growths originate in the lamina vitrea of the choroid at the margin of the papilla. They rarely cause serious blindness, and seem to be due to traumatisms. The sections devoted to glaucoma, to amblyopia and amaurosis, to affections of the orbital muscles, and to cataract are all remarkably well written. Dr. Swanzy still appears to favour that method of operating in which an iridectomy constitutes an essential feature, chiefly on the ground of the frequency with which prolapse of the iris follows, or is said to follow, the operation. Surely this is an error. Prolapse is not common if care be taken to make the incision just within the periphery of the cornea, to adapt the edges carefully, to instil a drop of eserine, and finally to avoid bandaging the eyes too tightly. As for the occurrence of irido-cyclitis in eyes from which the lens has been removed without iridectomy, it may, we think, be dismissed as an imaginary danger, or at least not more likely to follow the operation without than with iridectomy. Though differing from him in some details, we can recommend Dr. Swanzy's book as one of the most intelligently written and reliable text-books on diseases of the eye that, amongst the many which have appeared during the last few years, has as yet been written.

Archives of Pediatrics. A Monthly Journal devoted to the Diseases of Infants and Children. Edited by WILLIAM PERRY WATSON, A.M., M.D. Philadelphia: J. B. Lippincott Company. Vol. VIII., No. 95, November, 1891. — This number contains the minutes of the third annual meeting of the American Pediatric Society, held in Washington Sept. 22nd to 25th, 1891, and a portion of the transactions, which includes the address by the President, Dr. Rotch, on "Iconoclasm and Original Thought in the Study of Pediatrics," in which he says: "It is no exaggeration to state that a large number of sick infants and young children throughout the land are suffering from the vigorous treatment of their zealous medical attendants rather than from the disease with which they started"; as well as three papers, which do not contain anything new, by Dr. Latimer, Dr. Forcheimar, and Dr. Osler, on the "Diagnosis of Pneumonia in Infancy and Early Childhood." Dr. Dorland continues his original communication on "Affections of the Respiratory System in Infancy and Childhood, compiled and arranged in Tabular Form," and there is a good current literature on Hygiene and Therapeutics, Medicine, and Surgery, in their relation to Diseases of Children.

Brain: a Journal of Neurology. Parts LIV. and LV. London: Macmillan and Co. 1891.—This double number of the representative journal of neurological science contains several articles of interest and importance, which demand close study. The most prominent is a lengthy exposition from the physiological standpoint of the Sense of Effort, by Dr. Augustus D. Waller. It is largely based on experimental observation, and is also critical of the views of others. It should take an important place amongst contributions to cerebral physiology. Professor Chauveau writes on the Sensori-motor Nerve Circuit of Muscles, a topic cognate to that discussed by Dr. Waller. Dr. Morton Prince of Boston (U.S.A.) takes what may be summarily described as the psychological view of the inter-relations between mind and brain, in an article suggested by Dr. Hughlings Jackson's writings. But apart from these subjects of the "higher neurology," the journal abounds in excellent clinical and pathological records. Dr. Savill makes a contribution to the subject of sensory cerebral centres in his record, and comments on a case of anæsthesia and trophic changes consequent on a lesion limited to the gyrus forniceatus and part of the marginal convolution. Other clinical cases are contributed by Drs. Allen Starr and McBurney of New York, Dr. Bristowe, Dr. Handford, and Dr. Donkin. A "critical digest" of the subject of neurasthenia is contributed by Dr. Paul Blocq, of the Salpêtrière; and the number is also very rich in abstracts of neurological writings in other journals.

The two numbers of the *Bacteriological World*, September and October, give evidence that our American brothers are fully alive to the fact that it is necessary to diffuse a knowledge of bacteriology as widely as possible. Original articles, abstracts, or selections, lessons in bacteriology, reviews and notices, make up in each case a most interesting number. In the October number, in a contribution entitled "Notes on the Bacteriological Study of Diphtheria," by Wyatt Johnson, M.D., Montreal, the author has collected the results of a considerable number of experiments, from which he calculates that in 342 cases of diphtheria examined the Klebs-Loeffler bacillus has been proved to be present in no fewer than 327; in fifteen only was it impossible to find this organism. An extract from the Michigan State Board of Health on the Prevention of Small-pox is of interest, as showing what is being done in connexion with vaccination in the States.

Diaries &c. for 1892.—Messrs. Charles Letts and Co. (3, Royal Exchange) have forwarded to us an assortment of diaries of great variety and excellent in style; whilst the price brings them within the reach of everyone. The information which they supply is judiciously selected and of the most interesting kind. The "Improved Office Diary and Note-book for 1892" is a handsome book, devotes a page to each day, and is provided with a handy index. It can be obtained either of octavo or foolscap size. The popular "Desk Diary" contains a week's entries on every opening, and is interleaved with blotting-paper of good quality. The "Improved Pocket Diary" is another which can be recommended for notes, and which may be used as a cash-book. Perhaps the "A B C Medical Diary and Visiting List," with which is combined the prescriber's index of remedies and posological table, prepared for ready reference by medical men, will have special interest for our readers. It has for long been a favourite on account of its completeness and compactness, and it still continues to supply an excellent portable and compendious means of recording professional engagements.—We have also received from Mr. J. M. Richards, 46, Holborn Viaduct, what is termed a "Daily Reminder." It is suitable for the desk or pocket, and affords space for addresses and for daily entries.—Rudall, Carte, and Co., 23, Berners-street, W., publish "The Professional Pocket-book, or Daily and Hourly Engagement Diary for 1892," specially adapted for professional engagements, and constructed according to the plan of Sir Julius Benedict.—Another most excellent medical diary, that published by Smith and Co., and well known to the profession as "Smith's Diary and Visiting List," has given great satisfaction to those by whom it has been used. Within its pages will be found ample space for all the notes and memoranda which a medical man may have occasion to make on account of his professional services. The binding is strong and handsome.

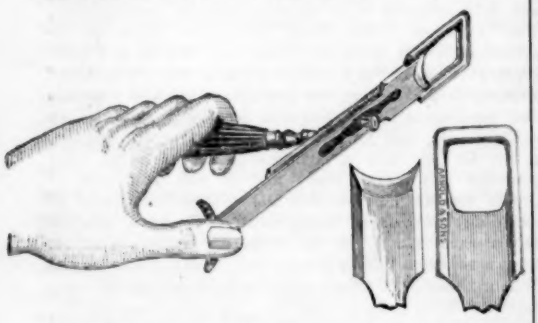
Sell's World's Press and Advertiser's Reference Book, 1892. 167 and 168, Fleet-street, London.—Sell's Dictionary of the World's Press and Advertiser's Reference Book comes as a boon to others than "the great army of newspaper men," and undoubtedly is deserving of a very high place as a work of reference. The lists in the directory portion of the dictionary have been carefully revised and corrected

to date, and special indexes have been added to facilitate more rapid reference. This volume also contains articles of interest on press subjects by such well-known pressmen as Mr. James Walker, Mr. Stead, and Mr. Fox-Bourne. Mr. Walker supplies an able article on "The Growth of the Provincial Press in London," in the course of which he says: "I am well within the mark in saying that the editors, sub-editors, and reporters of provincial papers working for their respective journals in the metropolis are twice as numerous as the whole staffs of the London press." The general reader will find much to consider and to learn when he peruses this work. The information it contains is given in a clear and concise manner, and its literary articles on press work are of a higher order.

New Invention.

IMPROVED TONSIL GUILLOTINE.

THE insufficient removal of an enlarged tonsil when using "Mackenzie's guillotine" may depend upon want of dexterity in the operator, a defect which nothing but experience can remove. There are, however, conditions in the instrument itself which are calculated to frustrate the intention of the operator. In the usual instrument the handle is placed close to the end of the director or lower blade, so that when the knife is pushed home the driving thumb comes close to the grasping fingers, and the muscular mechanism of the hand establishes an arc of movement from the forefinger and hand towards the thumb, which causes the distal end of the instrument to diverge from right and left or from left to right, according as the right or the left hand is employed in operating. In other words, the instrument has a movement away from the tonsils



towards the middle line of the throat. This tendency may be obviated by placing the handle further forwards, and by making the knife itself at the same time longer, so that when it is pushed home an inch or so remains behind the commencement of the director. The result of this is that the main arc of manual motion is from the thumb towards the rest of the hand, and not *vice versâ*, and the distal end of the instrument moves towards, not away from, the tonsil.

Messrs. Arnold and Sons have constructed such an instrument for me, in which also the fenestra for admitting the tonsil is a large oblong, which may be diminished by pushing forwards the knife, the cutting edge of which is concave, not convex as usual. The shape of the fenestra has been modified in order to obtain as long an obliqne diameter as possible, to ensnare long and obliquely placed tonsils, which are not so easily included in the ordinary circular opening.

ALEXANDER MORISON, M.D., F.R.C.P.Edin.

Green Lanes, N.

PROPHYLAXIS OF INHERITED INEBRIETY.

AT the quarterly meeting of the Society for the Study of Inebriety held at 11, Chandos-street on Tuesday, 5th inst., Dr. Charles Hare presiding in the absence of Dr. Norman Kerr (to whose indisposition the chairman made feeling allusion), a paper was read by Mr. JAMES STEWART, F.R.C.P.Ed., of Clifton, who said they could not too often as scientific men protest against the use of the words drunkenness and inebriety as if they were convertible terms. M. Trélat had put the difference very clearly thus: "Drunkards are people who drink when they find any opportunity of drinking. Dipsomaniacs are diseased persons who get drunk whenever their attack seizes them." The drunkard, continued the lecturer, if he continues his vicious course might so injure his brain structurally or functionally that he would eventually become an inebriate. The inebriate, on the other hand, was an individual who was in most cases born with an unsound brain. He might even be a man who had never so much as tasted any alcoholic drink in his life. True, the disease might be acquired, but the experience of fifteen years had taught him that the neurosis was in most cases an inherited one. The neurosis often led the sufferer to seek relief by the narcotism of alcohol, and so cause and effect were greatly mixed up. Admitting, as they all must, that it was a transmissible cachexia, the question arises how best to prevent the germs of the inherited disease from being developed. Dr. Joseph Parrish had said "inebriety might descend as inebriety, but it was just as likely to change the form of its appearance into insanity or other allied manifestation." Bearing this in mind, it was important that the child of an inebriate should be kept free from what might upset the nervous equilibrium, care being specially taken that the surroundings during early years were bright and calculated to develop the higher and nobler characteristics of the individual. He deprecated especially corporal punishment at the hands of strangers. He advised the mother, if her husband had been an inebriate at the time of her child-bearing, to not only bring up her children absolutely as total abstainers, but, by telling them after puberty of their terrible inheritance, to warn them against ever touching alcoholic drink all their lives. The neglect to give this warning, the keeping back of this knowledge, had in some cases treated caused reproaches to be uttered against the mother for omitting to perform a duty to her child out of a desire to shield the memory of her husband. But if this duty was imperative in the case of a son, how much more so in the case of a daughter if either parent had suffered from the disease. If she is to marry, she ought to be warned as to the danger of marrying anyone whose family history was tainted with a neurotic inheritance—a danger enormously increased if she should marry a first cousin. The lecturer concluded by the following summary of his views: 1. Drunkenness is a vice, inebriety a disease; the two terms must not be confounded. 2. The disease of inebriety once established may be transmitted to the patient's offspring either in the form of the alcoholic diathesis, epilepsy, chorea, insanity, or even tendency to crime. 3. The child of an inebriate born after the functional or structural lesion has been established is sure to inherit some nervous diathesis. 4. The only security against this diathesis developing as inebriety is by life-long total abstinence on the part of the child. 5. Even the adoption of this precaution will not absolutely make certain that there will be no transmission of the cachexia by the child to his or her offspring. 6. To prevent the development of the alcoholic neurosis in other directions—such as epilepsy—sudden excitement of the emotions and sensibilities, such as might be produced by corporal punishment by strangers, should in all cases be guarded against. 7. In the prophylaxis of inebriety the principle to be acted on with regard to children's training is that if we accentuate the good we attenuate the evil. 8. The marriage of the child or even grandchild of an inebriate to a first cousin should be absolutely interdicted.

THE LANCET.

LONDON: SATURDAY, JANUARY 9, 1892.

THE gathering of the International Sanitary Conference, which opened at Venice this week, represents another attempt to arrive at some understanding as to the best method for preventing the extension of cholera to Europe. One of the main questions about which the Conference has to deliberate seems to be this: Whether ships coming from the East, and declared to be infected or only "suspect," shall be allowed to pass through the Suez Canal without being forced to remain there for days or weeks under observation or quarantine, provided that they are subjected to a strict supervision in the canal and prohibited from all contact with the shore as absolutely as if they were in an open arm of the sea. The Conference has been summoned on the initiative of the Austrian Government, and will take as its basis of discussion a protocol signed in London in July last by the Austrian Ambassador and the Marquis of Salisbury. This document deals with the measures to be taken by the Board of Health in Egypt in the quarantine question. Four-fifths of the vessels between the East and Europe are British. It is England consequently, with her system of commerce and troop service for India, that is most directly concerned, and it is probable that Germany, Austria, and Italy may support the views generally entertained in England.

The continental view is that cholera comes from India, that the Suez Canal is the portal by which it gains its entrance, and that all shipping should be dealt with there accordingly. England does not, through her scientific advisers, deny the possibility of the admission of cholera to Europe by the Canal route, but she can point to the fact that, although her own ships come through the canal year after year, in almost ever-increasing numbers, yet she has not imported cholera into Europe; and that if a real remedy is needed it is such terrestrial measures of prevention as will make the soil of Europe less ready to receive and to hold fast to an infection such as was imported from Tonkin on the occasion of the last epidemic. Those countries, the inhabitants of which do not care to spend much money in sanitary reform, would, of course, get off cheaply if their interests could be guarded by restrictions taken at Suez, and the burden of which would have to be almost exclusively borne by others than themselves. But, on the other hand, people who have willingly borne a vast expenditure in the amelioration of their own sanitary circumstances, hardly see why they should also be made to suffer again just as if they had been amongst the most neglectful of European nations. In this way two widely conflicting interests face each other at Venice, just as they did at Rome in 1885, but the Canal seems more than ever the central point of the discussion on this occasion, and the Foreign Office has now accordingly sought its principal counsellors amongst Egyptian officials. Mr. LOWTHER, new to office and new to the points in dispute, is, as British delegate, however, also accompanied by Mr. H. FARNALL, C.M.G., of the Foreign Office, and in his secretary Mr. LOWTHER will find one who is thoroughly conversant with every detail of the questions to be discussed, and who can weigh with judgment the respective merits of the various proposals which may be brought forward. Indeed, the secretarial position assigned to Mr. FARNALL may give him opportunities of making use of his very exceptional experience in regard to European cholera and quarantine, which he might have lacked had he been an actual delegate.

So many incidental interests are involved in anything relating to the Suez Canal that science can hardly be expected to find itself paramount in any conclusions that may be arrived at. Commercial, political, or financial considerations should not be permitted to dominate in a question of this kind. Our experience, observation, and the present state of our knowledge should be mainly consulted. Continental nations may freely assent to the view that the best safeguard against cholera, for example, is sanitation. But sanitation in an extended sense, and carried out as it is in England, means a very large expenditure of money such as only a rich country could afford, in addition to the expenditure of time during which the necessary public works are being constructed. Quarantine, isolation, and disinfection, it might be urged, are direct, immediate, comparatively easy of application, and cost relatively little. If it is not possible to remove the insanitary conditions necessary to the growth and development of a disease-cause, the best way is to strive to prevent its introduction. Unfortunately, however, experience has shown that all attempts hitherto made in this direction have been futile or impracticable. But we might go further. The Suez Canal has been open since 1869. The traffic between India and Great Britain has been enormous during the interval between that and the present time. It has often happened that cholera has prevailed in India, and it has occasionally happened that cases of cholera have occurred in ships leaving that country for England, but, as before remarked, there has not been one indubitable instance of a vessel passing through the Canal having introduced cholera and given rise to an epidemic or extensive outbreak of that disease in Egypt or this country since the Suez Canal was opened. As far as statistical evidence goes British ports have suffered almost nothing from cholera in comparison with other countries and places, and, as regards the recent history of cholera in Egypt, all the evidence points rather to Mecca pilgrimages than to the Suez Canal as its source. After all, we know too little of the real causes of many diseases to base practical action and legislation on such knowledge as we possess; but we do know a great deal about the effect of practical sanitation in safeguarding us against disease, and once we quit that we are apt to lose the foothold which fact and experience afford us.

Under all circumstances, the outlook at Venice is not, perhaps, as hopeful as we could have wished; and this the more so because whilst England has in reality been consistent in opposing cholera by sanitation in place of a failing quarantine system, she appears to foreign nations as

doing so only when she finds it answers her own purpose to adopt this alternative. The meeting-place is a favourable one, for the Government of Italy, who are acting as hosts, have shown themselves to be much in advance of many other European nations in regard to the true methods for preventing cholera extensions; and it is to be hoped that, under Italian auspices, some satisfactory conclusion may be arrived at.

THE researches of many inquirers working on such different lines as those afforded by the microscope, chemistry, meteorology, clinical medicine, and pathology, have shown incontestably that we are surrounded by multitudes of active and predaceous, if minute, enemies always ready to take advantage of any defect in our defensive armour, and to enter the system through every breach of continuity of the surface. Having once gained entrance, if the conditions be favourable to their growth and development, they rapidly multiply, and by their voracity as well as by their excreta soon destroy their host. The outworks of the fortress are extensive, the defenders are few and scattered, but active and capable of quick concentration. It may sometimes happen, therefore, that the numbers of the enemy admitted are insufficient to gain a footing, and, after a more or less severe contest, are overcome, their bodies squeezed and sucked, and then thrown out; or, on the other hand, it may happen that the garrison, tired and exhausted, or taken by surprise by a large body of the enemy, are unable to resist, and then utter rout and destruction are the result. The immunity that various animals possess against certain microbes has been the subject of a lecture in THE LANCET of Dec. 26th, 1891, by Dr. ARMAND RUFFER, and of a paper by the same author which appears in the volume for 1891 of the *Quarterly Journal of Microscopical Science*. It is here pointed out that, though denied by competent bacteriologists, overwhelming evidence has accumulated showing the influence of numbers. Thus 250 millions of staphylococci injected into a rabbit will produce an abscess in this animal, but 1000 millions of the same parasites will cause death. A few drops of a culture of the bacillus pyocyaneus injected into the veins of a rabbit give rise to a chronic disease, whereas a quarter of a cubic centimetre of the same culture kills the animal with certainty. The nature or virulence of the microbes introduced, the animal experimented on, and the mode in which the introduction is effected—as, for example, into the blood itself or into the subcutaneous connective tissue,—are all circumstances that materially modify the result. Still, it is interesting to inquire by what means the injurious effects caused by a minute quantity of the poisonous fluid injected are prevented, when it can be easily demonstrated that a slightly larger quantity proves fatal. Dr. RUFFER first discusses the cases in which guinea-pigs have been inoculated with the virulent disease named "quarter-evil," produced by the bacillus Chauvœi, to which disease, unlike rabbits, they appear to possess a remarkable proclivity. If a small quantity of the powdered virus be introduced under the skin, a small hard swelling appears at the seat of the wound in from twelve to eighteen hours; crepitation is felt, with thickening of the surrounding parts. After twenty-four hours the animal shows evident signs of sickness, becomes lethargic, droops and dies in the course of forty-eight hours after the inoculation. On examination, the remains of the powder are found lying in a cavity lined by a thin grey fibrinous layer and containing fluid. The surrounding muscles are œdematous. Now, if twelve hours after the puncture a little of the transparent fluid in the cyst is drawn off, it is found to contain a large number of bacilli, which move in the liquid. The leucocytes are few, and are either empty or occasionally hold two, three, or more bacilli in their interior. Forty-eight hours after the puncture, or just after death, the fluid contains immense numbers of bacilli and many leucocytes. These are of the small variety of amœboid cells named microphages, and many of them contain bacilli. The abscess walls present on their free surface a dense mass of similar amœboid cells, the bacilli in the interior of which frequently show signs of degeneration, staining less uniformly and deeply than the bacilli which still remain outside the microphages, becoming smaller, and ultimately breaking down. Large numbers of bacilli exist outside the leucocytes. We may suppose that in such a case the fight between the microbes and the leucocytes ends in the discomfiture of the latter, and death results. If, however, a small dose of a weak virus be inoculated subcutaneously, the struggle between leucocytes and bacilli is evident up to the fifth day, or even later; but the number of micro-organisms gradually diminishes, so that after the fourth day hardly any bacilli are found at the seat of inoculation. On the fifth day the few bacilli which can still be seen are contained in migrating cells, and show evident signs of the most advanced degeneration. In such a case the contest between the microbes and the amœboid cells terminates in favour of the latter. Similar facts have been observed in the erysipelas of man, and Dr. RUFFER in two fatal cases found numerous streptococci in the lymphatic vessels, in the skin, and in the layers immediately beneath, but always outside the vessels; innumerable leucocytes had emigrated to the spot. In other cases which ended in recovery many of the migrating cells were absolutely crammed with micro-organisms, forming a mass surrounded by a clear vacuole in the interior of the leucocyte. Analogous conditions were found in cases of swine fever and in cases of anthrax. There seems to be no doubt that the bacilli are ingested by the leucocytes in the living state, since after the death of the leucocytes the bacilli, if placed in favourable conditions, begin to develop. But another observer (Dr. ROGER) has made the interesting observation that the serum of guinea-pigs which are non-immune against the bacillus Chauvœi possesses very strong bactericidal powers on this organism; whereas the serum of rabbits which are relatively immune has no harmful action on it. This observation is in favour of Dr. RUFFER'S view that the bactericidal powers of the *dead* fluids of any animal against a specific micro-organism is no criterion of the power of resistance of that animal against this micro-organism. Finally, there seems good reason for believing that the chemical poisons secreted by micro-organisms attract the leucocytes to the spot where they are introduced.

DESPITE the fact that the fog question has been discussed over and over again by eminent authorities and experts, no practical solution of the difficult problem has as yet been arrived at. Indeed, it is open to grave doubt whether any

of the many proposals that have been made could be really carried to a practical issue, or would be followed up with any measure of success. The adoption of smokeless stoves has been thought to be a means of grappling with the intolerable nuisance, but to carry out this scheme in a large city like London would clearly involve an immense outlay of money, and the difficulties which would obviously attend the introduction of the smoke-consuming stove in the place of that used in almost every house in the metropolis at the present time would appear to be well-nigh insurmountable. Even supposing, too, apart from this, that every stove in London did effectually consume its own smoke, nothing can alter the climatic conditions which must inevitably produce what, for the sake of distinction, we call mist. London is just as liable to the formation of mist as the English Channel or the open country; and granting that coal is perfectly burnt, how far, it may be asked, will perfect combustion affect the character of the well-known pea-soup variety? From the nature of the constituents of coal, we know that if it is completely burnt in air nothing but invisible gases, consisting mainly of carbonic acid, water, and sulphur dioxide (or sulphuric acid, $H_2O + SO_3$), as we have generally found, should be obtained, together with a perfectly white ash, representing the mineral contents. As long as coal therefore is our source of fuel, however perfect the method of consumption may be, there must result *a priori* the products just enumerated. Are these products deleterious, or at any rate as prejudicial to health as those which have been shown to occur in fog deposit? The analysis of fog deposit collected at Kew, an account of which appeared in THE LANCET of August 15th, 1891, page 390, showed it to consist of 42·5 per cent. carbon, 4·8 per cent. hydrocarbons and organic bases (pyridines), 4 per cent. sulphuric acid, 0·8 per cent. hydrochloric acid, 1·1 per cent. ammonia, 41·5 per cent. mineral matter, and 5·3 per cent. moisture. A deposit collected in Chelsea consisted of 39·0 per cent. carbon, 12·3 per cent. hydrocarbons, 2 per cent. bases (pyridines), 4·3 per cent. sulphuric acid, 1·4 per cent. hydrochloric acid, 1·4 per cent. ammonia, 2·6 per cent. iron and magnetic oxide, 31·2 per cent. mineral matter, and 5·8 per cent. moisture. The amount of deposit collected was equivalent to six tons to the square mile. From this it appears highly probable that the character of fog would, by the adoption of smoke-consuming stoves, be changed for the better, and be reduced to the less injurious condition of mist. The substitution of invisible carbonic acid, water, and small quantities of sulphuric acid for visible and colour-producing carbon, organic bases, pyridines, and various mineral matters would, it is safe to assume, be far preferable. Carbonic acid and water, both the normal products of oxidation in the animal economy, can hardly be said to possess properties of a particularly noxious character, although exception might be taken to sulphuric acid. The production of this acid is inevitable so long as coal contains sulphur. Probably, however, it could be removed by the adoption of a simple arrangement similar to that used in gas works for purifying foul gas. Lime or any of the alkalies readily absorb this acid. There seems to be no reason why a few shelves or drawers arranged in dovetail order containing either of these substances could not be constructed at some convenient place in the chimney. The absorbent could be renewed from time to time, just in the same way as at present the chimneys are periodically swept out.

There is much to be said for and against the scheme which proposes to introduce the exclusive employment of gaseous fuel. One common obstacle to the introduction of this and to most other schemes—and by no means one easy to remove—is that of sentiment. There lies in the glowing coals a virtue which a mere heat-giving body cannot possess, and the mysterious reflections and fancies conjured up when—in an indulgent reverie—one peers into the incandescent depths, can never be derived from a gasburner or the closed and dead-looking stove. This sentimental objection is no doubt a strong one to remove, and inventors would perhaps do well to give their attention to a method which shall provide for the removal and utilisation of the products of incomplete and imperfect combustion as they are met with in the ordinary domestic fireplace of the present day.

UNDER the name of "Onomatomanie," MM. CHARCOT and MAGNAN have recently described some curious forms of functional derangements of the faculty of speech. These derangements occur in certain neurasthenic patients, and are quite distinct from any variety of aphasia or aphemia. M. SÉGLAS of the Salpêtrière, in a recent paper, describes five varieties of the affection. In the first, the chief feature is an agonised effort to recall some word; in the second, the sufferer seems possessed by some word, and under an irresistible impulse to go on continually repeating it; the third variety is characterised by the patient attaching some peculiar and dreadful meaning to some commonplace word; in the fourth, the patient attaches some talismanic influence to certain words, and goes on repeating them as a safeguard to himself; while in the last variety the individual is impelled to, as it were, spit out some word, like a disgusting morsel. According to M. SÉGLAS, a word is "a complexus of images, localised in certain centres of the cerebral cortex, the images being partly auditive, partly visual, partly motor. Thus, the characteristic feature of "onomatomanie" is just the irregular action of one or several of these verbal images, resulting from some functional disturbance of the corresponding centre."

In what is called simple "onomatomanie" the chief feature is that the patients are generally possessed with the idea of recovering a word which escapes them. Although the word is quite familiar to them, although they can give its signification, state the place where they have read it or the moment at which they have heard it, they appeal vainly to their memory to recall it. The result is an agonised effort to recall the word, and presently the patient hears, as it were, the word vibrating at his inner ear, and he becomes calm again. In another variety of the affection it is the articulate part of speech which is at fault. The patient knows the word, sees it written, as it were, visibly before him, but is quite incapable of articulating it. Perhaps he utters some synonym of the word or some word resembling it in certain letters, until suddenly the word is found and the painful crisis ends. More curious still are those cases in which the patient seems possessed by a word as if by a demon. Sufferers state that they hear the word constantly resounding in the head, or sometimes the word seems to

fade away in a sort of distant echo. The attacks may come on each time the patient meets certain words in reading or hears them accidentally pronounced. M. SÉGLAS mentions the case of a woman who each time she met the word "rage" seemed to feel the word persisting before her eyes. Such cases shade off into cases of genuine hallucination, in which the patient hears imaginary words constantly sounding, or sees them written in the air. Other patients are tortured by the fear of uttering gross or compromising expressions, and often ask the bystanders what they have just said. Others, again, present the symptom of "echolalie" or imitative speech, and go on repeating words like a phonograph.

A second distinct variety of the affection is described under the term of "onomatomanie associée," which includes those cases in which certain words acquire some peculiar and preponderant meaning in the eyes of the patient. He may regard some word as noxious and disgusting, to be got rid of by a violent expulsive effort, or he may look on some word as possessing the power of shielding him from hurt and mischief. A case is cited of a patient who could never hear the words "vendredi," "malheur," "treize," without at once correcting their supposed injurious meaning by pronouncing the words "samedi," "bonheur," "quatorze." Some patients have the idea that it is some enemy who has the power of making them hear and repeat the disquieting words. What distinguishes "onomatomanie" from ordinary cases of auditory hallucination is the occurrence of the crisis of agonising effort, and the calm which follows when the crisis has been surmounted. It must be observed that the mere verbal features of the affection would be insufficient to distinguish it. As regards the prognostic value of the various forms of "onomatomanie," M. SÉGLAS is of opinion that the outlook is most grave in those cases in which the language troubles seem to depend upon an erethism of the motor centres exaggerating the intensity of the motor images, and impelling the patient to an irresistible impulse to expel the word. This last symptom, he believes, denotes a cerebral disintegration characteristic of the worst forms of intellectual decline.

The above description will, we imagine, be new to many of our readers. It must be observed that while some of the cases adduced in the earlier part of this article bear a considerable resemblance to some cases of aphasia, they occur apart from any paralytic or hemiplegic condition, and simply in neurasthenia. Other cases seem to border on true hallucination, but the accounts of our French contemporaries would seem to establish the genuine existence of an intermediate class of case, distinct alike from aphasia and insanity, and the recognition of this group under a distinctive name would be a real gain to pathological literature. The subject abounds in difficulties, which is not surprising when we recollect how complex is the machinery employed in language, and how many factors, physical and psychical, unite for its production.

SIR ANDREW CLARK has done good service to the cause of medical education by undertaking a course of clinical lectures on Common and Functional Diseases, the introductory lecture of which, on the Methods of Clinical Instruction, we published last week. The moment is opportune. This is New Year time in a special sense with medical education. From the beginning of 1892, by recommendation of the General Medical Council, an additional year will be added to the term of study required of medical students. On June 5th, 1890, the Council adopted the following resolution of its Education Committee: "(*a*) That the course of professional study after registration should occupy at least five years *conditionally*," and one of the chief *conditions* is specified by the Council in the following recommendation: "(*d*) That the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries recognised by any of the medical authorities mentioned in Schedule A of the Medical Act, 1858, provided that, of this year six months may be passed as a pupil to a registered practitioner holding a public appointment, or possessing such opportunities of imparting practical knowledge as shall be satisfactory to the medical authorities." Recommendation (*g*) requires every candidate for the final professional examination at the end of the fifth year to give evidence that he has had sufficient opportunities of practical study &c. Recommendation (*h*) provides that the regulations of schools and examining bodies be so framed that attendance on systematic lectures shall be concluded at the end of the fourth year, so as to permit of the student devoting the fifth year to clinical work as defined in recommendation *a*. Recommendation (*i*) requires that, with the view of securing attention to practical work in education, the time devoted to the practical part of the examinations in all the subjects shall be extended.

Such resolutions, in their spirit and in their letter, mark an era in medical education. In other words, they indicate a determination on the part of the General Medical Council to insist on the *clinical* element in teaching, to bring it to a practical issue, and to send out young men from the schools familiar with disease as they are likely to meet with it, and fit for the duties and responsibilities of practice. In these circumstances nothing could be more seasonable than the address of Sir ANDREW CLARK, in which he expounds, with his usual clearness, the different methods of instruction in such matters, and ends with a preference worthy of GRAVES or of LATHAM. It might have been otherwise. Sir ANDREW CLARK is more than a mere physician. He has powers of the dialectic and of the didactic sort, in the use of which he excels. Systematic exposition and moral reflections are in him such powers as great preachers or orators might envy. But he represses all these and elects to use the hour which he is to steal from his busy life to show the students of the London Hospital the plain art of seeing a patient in the most considerate and humane way, and finding out readily and shrewdly what is the matter with him, how his health can be restored and placed on sound physiological lines for the future.

"My object is not the delivery of didactic lectures, not the reading of clinical essays, not the demonstration of technical proceedings, and not the discussion of rival pathological theories. All these procedures have their time and use. My one object now is to help you to get plain

practical clinical instruction, and so to get it of such a kind that you may pass from this hospital into practice accustomed to its methods and cautions, without fear of disaster and ready for sound and honest work."

These are timely and weighty words, alike loyal to the spirit and the letter of the recommendation of the Medical Council, and kind to his students. He is not only going to teach clinically, but he is going to show to his students his own method of seeing patients, and his own way of eliciting the truth as to their case and wants. He is not going to mumble out a few broken sentences after hearing the report drawn up by the clinical clerk, but, coming fresh to the consideration of the case of the patient, he is going to make him tell his own story and his family history; then using the proper methods of investigation and instruments of diagnosis, he will form his opinion of the case, its proper treatment and its probable course—all to be done with due regard to the feelings of the patient. In other words, he is going to act the part of a practitioner in daily practice examining cases functional rather than organic, chronic rather than acute, common and ordinary rather than exceptional. An example so good by a teacher so authoritative cannot fail to be extensively followed by other teachers. He expresses no opinion on the difficult question of pupilage. But he admits that while ample provision is made in medical education for the study of the graver forms of disease, acute and chronic, substantially no provision exists for the study of the slighter forms of disease or of disease in its earlier and more curable stages, beyond the necessarily oftentimes incomplete lessons afforded by the out-patient department. Such a statement comes very near an admission of the necessity for lessons in general practice. There are large classes of cases in general practice which cannot be seen in their continuity elsewhere. The claim of the general practitioner to be a teacher might have to be determined by the examining authorities, one of whose functions it is to recognise hospitals or schools. But if students are to study cases that are scarcely seen in hospitals, and cases that largely make up general practice, and to study the art of seeing them and dealing with them promptly and practically, it is difficult to deny a place in the curriculum for lessons in general practice. We do not here propose to go further into this question, but content ourselves with thanking Sir ANDREW CLARK for his powerful exposition of a defect in medical education, and for giving the weight of his personal example in favour of the best of all kinds of clinical instruction, enabling those who receive it to enter practice "without fear of disaster and ready for sound and honest work."

Annotations.

"Ne quid nimis."

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM.

IT gives us great pleasure to inform our readers that the Lord Mayor of London has consented to take the chair on April 5th at the dinner in aid of the Pensioners and Foundationers Fund of this College. It is peculiarly fitting that his lordship, a resident near the College and a Welshman, should consent to come forward to assist the great work of his fellow countryman, John Propert. It is necessary to find between £5000 and £6000 annually to meet the expenses of the charity, and the yearly income from its small capital is only a few hundreds. Pecuniary aid is therefore urgently needed to meet these demands, and this year a strenuous effort will be made by the Council to place the condition of the pensioners on a more satisfactory footing. Of late years public opinion has recognised how far greater a charity it is to give even a moderate pension to the aged and to the needy, and to enable them to spend their declining years with their relatives and friends, than to give them a smaller income and residence in a fixed situation—too often at a distance from anyone they have known. The Council will again appeal most earnestly for help to capitalise such an amount as will enable them to give the pensioners augmented incomes in lieu of residence, and to allow them to live where they please. In this connexion it may be remembered that on the occasion of the last biennial festival, which was fully reported in THE LANCET of April 26th, 1890, we stated that we considered this suggestion so admirable that we had written to Dr. Holman, the treasurer, to say that "providing £49,000 be collected within two years from the present time, we will give the other £1000 to make up the amount he asks for; or, in the event of that not being accomplished in two years, we will subscribe an amount in a similar proportion to the sum actually collected." No aid is asked for the school, which has so often erroneously been termed a charity school, although Section 28 of the Act of Parliament proves that this was never contemplated. It is full to overflowing as a result of its high repute for tone and good work. Success, indeed, presses so hard that increased accommodation is urgently needed. A double advantage will eventuate from a greater charity to the pensioners: the Asylum can be most usefully employed in meeting the demand for increased school accommodation. The wishes of the founder will assuredly be carried out by a more generous treatment of the aged and of the poor; and the dream of John Propert that Epsom might one day rank high amongst the schools of England bids fair to be realised.

INFLUENZA.

THE past week has been marked by a rapid extension of influenza, both in this country and abroad. It has also been notable for the announcement from Berlin that Dr. R. Pfeiffer has discovered in the sputa of patients suffering from the affection a bacillus which he believes to be pathogenically related to the disease. In this connexion it may be well to call to mind the former discovery by Dr. Jolles of Vienna, two years ago, of a microbe in influenza which was suspiciously like Fraenkel's pneumococcus. Still, as there is *a priori* ground for believing that influenza is a microbic affection, we must await fuller details of Dr. Pfeiffer's research before passing judgment upon it. Although the discovery, if confirmed, will advance our knowledge of this mysterious plague, it cannot be expected to influence the lines of its treatment very materially; and it is quite unreasonable, as some are doing, to reproach the profession for not having ere now found a specific remedy first, seeing that there is no infective disease known for which it can be said that we possess a true specific. The laity may feel assured that the treatment of influenza is carried out on rational principles. It is noteworthy that, when the numbers attacked are considered, the mortality rate is lower than that from almost any other known specific fever. As regards the parts of this country which are now the chief centres of the epidemic, it is noticeable that the southern, eastern, and midland counties are those where it most prevails. The Scilly Isles have been visited severely by the epidemic, which still exists to a great extent in South Devon, and has been especially rife at Tiverton. In Dorsetshire the agricultural

population is widely attacked. In Hampshire influenza is very prevalent at Southampton and the vicinity. In Berkshire, Windsor, Reading, Newbury, and the country around have been severely visited. In Surrey it has prevailed at Walton, Kingston, and Richmond. In Sussex cases have occurred at Horsham, Worthing, and Brighton. But it is in Kent, as noted last week, that its ravages have been most severe, particularly at Canterbury and the Ashford district, where the authorities have followed the example of Dover in imposing a penalty for wilful exposure of patients. North of the Thames influenza has gained a firm foothold in Essex, where numerous cases are occurring in the villages and smaller towns, Bishop's Stortford and Dunmow being specially mentioned. In Herts cases have occurred at Luton, Dunstable, and St. Albans, and the counties of Cambridgeshire, Huntingdonshire, and Northamptonshire are all being invaded. At Hucknall Torkard in Notts there have been many cases. In Suffolk and Norfolk it is also very prevalent. In fact, the disease is spreading over the land quite as markedly as at its previous visitations. It has certainly become more prevalent in the metropolis, where last week the number of deaths directly attributed to it rose to 37 from 19 in the preceding week. The mortality from diseases of the respiratory organs (for which the previous week of fog was largely responsible) rose to the enormous figure of 1317, exceeding the corrected average by 778. The general death-rate in London was as high as 42 per 1000, being only exceeded among the large towns by Liverpool (42·2 per 1000) and Wolverhampton (45·3 per 1000). Influenza seems to have disappeared from Scotland, except in the remote Orkneys, where it has been recently raging; and in Ireland Limerick and Newry have been the chief centres. On the Continent it still prevails in France, and among its victims has been Professor Charcot, who, we are glad to learn, is now convalescent. In Italy it is especially rife at Milan, but has occurred in many other towns, as Florence, Begamo, Turin, and Genoa. In Austro-Hungary the outbreak at Buda-Pesth has been exceptionally severe, and the disease is prevailing in Styria and elsewhere. There is less mention of its spread in Germany; but it has been very prevalent in Belgium, among the sufferers being the King of the Belgians and the distinguished political economist, M. de Laveleye, who succumbed to the disease. The lunatic colony of Gheel has been ravaged by the epidemic, the mortality being very high indeed. At Malines work has been almost suspended by the plague. From Russia comes the intelligence that the Czarina has been attacked; but we have no definite information of the spread of the disease in that country. In other parts of the world information comes of its occurrence in two opposite quarters of the globe—namely, in Tonquin in the far East, and in British Columbia and Vancouver in the far West, the native Indians especially suffering in the latter countries. In conclusion it may be noted that influenza and "pink-eye" have been very rife among the horses at the South Yorkshire collieries, whilst concurrently with the influenza epidemic in Dorset "pink-eye" has prevailed among the farm stock, and the same affection is also prevalent in the farms of South Bedfordshire.

THE JEALOUSY OF THE PEERAGE.

THE new year's list of honours is thin and poor, as far as science is concerned. The gift of a peerage to Sir William Thomson, indeed, is an act which redounds highly to the credit of those who advise Her Majesty, but it is late, and is almost the first recognition of the sort in this country which is generally supposed to lead in liberal ways and generous recognition of merit. The deserts of the medical profession are met, according to this test, in the gift of a C.M.G. to P. D. Anthonisz, M.D., of Ceylon. The House of Lords will receive as much honour as it will confer in the elevation of Sir William Thomson, and we cordially recognise in this step an indication that Lord Salisbury wishes to make the second chamber something more than a mere collection of hereditary legislators. Perhaps he is not to blame for the halting manner in which the need for reform is recognised; but somebody is to blame, and whoever it be he is no friend to the House of Lords. We shall say little about the continued exclusion of representative men of our own profession from the House of Lords; but we think the more. The Upper Chamber will never be what it ought to be till it includes men of light and leading from all the liberal professions.

"RURAL DEPOPULATION."

THE rapid increase of our urban communities and the slow and declining rate of increase of our rural population during a long series of years are of the deepest interest from a public health, as well as from a social and political, point of view. It is, however, manifestly incorrect to speak of this constant migration from country to town as "rural depopulation," by which term it is so generally described by the newspaper press. The inaccuracy of the use of this term was insisted upon by Dr. Ogle in a paper on the subject read a year or two ago before the Royal Statistical Society. The Preliminary Report on the Census in April last showed that while the population of the 1006 urban sanitary districts had increased by 15·3 per cent. between 1881 and 1891, the increase in the remainder or rural portion of the population of England and Wales was only 3·4 per cent. It is obvious from these figures that the rural districts during the last intercensal period lost by migration to towns or by emigration beyond the seas a very large proportion of their natural increase during the ten years by excess of births over deaths. It is, however, at the same time obviously inaccurate to talk of the depopulation of our rural districts when their population in 1891 exceeded that in 1881 by more than a quarter of a million. There is another point in connexion with the light thrown upon this important subject by the results of the recent census, to which attention was recently called in the columns of THE LANCET, but which is lost sight of by most of those who write concerning this so-called rural depopulation. We pointed out that in those rural counties in which the population has recently been actually declining the rate of decrease was smaller in 1881–91 than it was in 1871–81; while in the rest of the rural counties the rate of increase, although very low compared with the rate of increase in towns, was higher in 1881–91 than in 1871–81. A recent correspondent in a contemporary was inaccurate when he wrote of "the decrease of population in rural districts shown by the recent census," for, speaking generally, there has been an increase of 3·4 per cent. instead of a decrease; he was, however, still more markedly inaccurate when he referred to the evidence afforded by the agricultural returns of the cause of this decrease, which decrease is disproved by the census returns. The decrease of the English population engaged in agriculture between 1871 and 1881 was partly attributed by the census commissioners in their report to the decrease of arable land and the consequent increase of permanent pasture. The same correspondent asserts that "no very great acreage that was under tillage has been laid away to grass." This assertion is too general in form to controvert, but when he adds "in point of fact the acreage under grass of all kinds in Great Britain has only increased 9·1 per cent. during the last twenty years," and supports this assertion with figures, it becomes evident that his ratio of increase is miscalculated. His figures show that, in 1871, 54·5 per cent.

of the acreage of Great Britain was under grass, while in 1891 the proportion had increased to 63·6 per cent. of the whole. These figures indicate that of each 100 acres in Great Britain the number under grass in 1891 exceeded the number in 1871 by 9·1, but it is obviously incorrect to say that "the acreage under grass of all kinds in Great Britain has only increased 9·1 per cent. during the last twenty years," since the increase of 63·6 upon 54·5 is equal to 16·7 per cent. Indeed, if the proportion under permanent grass be taken alone, the amount of increase in the twenty years is no less than 23·2 per cent., although in each 100 acres there were only 9·2 more under pasture in 1891 than there were in 1871. This is not the place to discuss the causes of the constant migration from rural to urban districts, but the facts referred to above appear to warrant the conclusion that if this migration be in great measure due to the higher wages and general attractions of town life, these causes are accentuated by the depression of agricultural interests, one of the signs of which is the increasing acreage laid down in permanent pasture leading to a most important reduction in the demand for farm labour.

THE LANCET RELIEF FUND.

THE "Application Form" of THE LANCET Relief Fund will be found in our "General Advertiser" columns. It can easily be removed, filled up, and forwarded to the Secretary, Mr. Edward Davies, THE LANCET Office, 423, Strand, London. We would once more ask those of our readers who may have occasion to employ the form, or to sign one of the required accompanying certificates, to carefully notice the conditions on which applicants become entitled to a participation in the benefits of the Fund.

DEATH UNDER CHLOROFORM.

WE are able to give the following facts concerning the case which proved fatal at the Middlesex Hospital on Dec. 19th:—The patient was a carman, aged forty-seven, to whom an anæsthetic was administered for the purpose of discovering the cause of a considerable loss of blood from the bowel. The patient was a man of large frame and full habit; he was said to be much addicted to drink. His chest was very barrel-shaped, and the lungs markedly emphysematous. Chloroform was administered by means of Krohne and Sesemann's modification of Junker's inhaler, with patent respiration indicator. He took the anæsthetic well, and passed through the stage of intoxication, the face becoming slightly congested, but not livid. At about four minutes after the commencement of the administration he was wheeled into the theatre and lifted on to the operating table, the administrator closely watching the respiration and pulse all the time. The respiration then suddenly stopped without the slightest warning, though the pulse for a time continued to beat regularly. Despite every effort at restoration the man never rallied. Directly the breathing stopped the head was hyper-extended and the tongue drawn forward; forcible pressure was made once or twice on the sternum, and Silvester's method of artificial respiration was resorted to, though this, owing to the rigid state of the thorax, produced but little flow of air. Tracheotomy was therefore quickly performed and air pumped into the lungs. Howard's method of artificial respiration was also tried, but was found to be less efficient than Silvester's. Inversion combined with artificial respiration was also resorted to, and these, together with minor measures, such as enemata of brandy, injection of ether, hot fomentations over the heart, exhibition of nitrite of amyl, free supply of fresh air, &c., were continued for over an hour without the slightest effect. The necropsy revealed firmly adherent and extremely emphysematous lungs and a greatly dilated thin-walled heart infiltrated with fat, the right cavities being full, the left empty. The cause of the rectal hæmorrhage appeared to be a general capillary oozing, and this had been so extensive that the man would probably have died in a few days. It is difficult to arrive at the true explanation of any case of death from chloroform; in this instance it is probable that the lungs, being extremely emphysematous and adherent to the chest wall, contained a large amount of residual air, which became saturated with the chloroform vapour, and the latter, becoming absorbed, suddenly paralysed the respiratory centre. Owing to the pathological condition of the lungs, and to the conformation and rigid state of the thorax, the vital capacity, and therefore the power of elimination, was extremely small, and artificial respiration was correspondingly difficult. The amount of chloroform used was carefully observed, and it is stated to be under one drachm.

THE ENLARGING NUMBERS OF THE PROFESSION.

WE shall have to wait some time for the official Register of the profession. Meantime we are very thankful for Churchill's Directory which gives us early information of the numbers of the profession. According to this authority there is no check in the rush into our already overcrowded ranks. The explanation of this increase cannot be found in a desire to evade the regulation extending the curriculum to five years, for this regulation has not been passed long enough to affect those registering last year, and whose registration would seem to add no less than 551 to the total of the profession. The numbers given for the two years 1891 and 1892 are as follows:—

Number of Practitioners.

	1891.		1892.		
London	5095	....	5293	....	+ 198
Provinces..	13,926	....	14,026	....	+ 100
Scotland	2739	....	2850	....	+ 111
Ireland	2489	....	2445	....	− 44
* Resident Abroad	2795	....	2962	....	+ 167
Naval, Military, and Indian Medical Services, and Mercantile Marine	2440	....	2410	....	− 30
"Too Late" List—Additional names*	—	....	49	....	—
Total	29,484		30,035		+ 551

* Not given in 1891.

From these figures we gather that the augmentation increases. "The rain it raineth." For whereas between the years 1890 and 1891 there was only an increase of 112, between 1891 and 1892 the addition is 551. There are some changes in the arrangement of districts. Thus London now includes the following places:—Chingford, Chiswick, Edmonton, Gunnersbury, Leyton, Manor-park (Essex), Merton, Tottenham, Turnham-green, Walthamstow, Wimbledon, and Woodford.

THE RE-INFLATION OF A LUNG FOR ISLINGTON.

ACCORDING to recent information there is now in Islington a chance for the good offices of the Metropolitan Public Gardens Association. It appears that the vestry, after long delay, and at the instance of the County Council, have decided to reorganise, by extensive demolition and otherwise, the little slum district known as Norfolk Area. The spot in question is, in its way, an interesting relic of rural Islington, a village fragment which has become on all sides hemmed in by the backs of back streets, themselves respectable at least in age. It consists of small, old-fashioned houses, for the most part whitewashed, and arranged in two squares, each having its plot, once a garden, in front. Thanks to their distribution in this order, ventilation of the space is far from hopeless, notwithstanding its imprisonment by surrounding brick and

mortar, and the roadway is cleanly enough kept. The buildings themselves, however, have become superannuated, and it was hardly to be expected that their internal defects could long escape or could ever satisfy the fiery eyes of modern sanitation. Its light has penetrated their ancient recesses, and the vestry, its minister, has condemned them. The squares, rustic no longer, will probably be traversed by a new road, and certainly there can be no objection to this, though it seems hardly needful to add a spacious thoroughfare to others already existing close at hand, nor is it easy to see how the whole of the available space can be thus utilised. A passage connecting two or more of the adjacent streets would satisfy the requirements of pedestrians, and the rest of the area might well be converted into a small common green or playground for the children of the district, with back-door communication for the surrounding houses if desired.

CEREBELLAR TUMOUR.

DR. HOWARD publishes in the *Australian Medical Journal* the case of a patient who had been under his care suffering from cerebellar tumour. The patient was a woman of forty, who for six months before her confinement in December had suffered from headache, giddiness, and unsteadiness in walking. Her symptoms became aggravated after her confinement; she staggered in walking, being inclined to fall to the left side. She had severe headache, worse in the occipital region to the right of the middle line. There was no actual paralysis, her knee-jerks were normal, and there was no change in the optic discs and fundi except some venous engorgement. Death took place suddenly, and at the necropsy a round tumour was found arising from the back of the inferior vermiform process of the cerebellum, and growing forward so as to fill all the front part of the fourth ventricle. The tumour was an inch and three-quarters long and an inch and a half broad, and in structure was a mixture of glioma and sarcoma.

THE TREATMENT OF DIPHTHERIA.

To what extent principles of treatment of cases of infective disease may be modified by the acquisition of true knowledge concerning the nature of such affections is well shown in a paper read recently before the Clinical Society of Paris by M. Barbier, in which he dealt with the subject of diphtheria (*La France Médicale*, Jan. 1st, 1892). He pointed out that the researches of Klebs, Loeffler, Roux and Yersin, and others have now conclusively established that the pathogenic agent is a bacillus which is only to be found in the false membranes and does not penetrate either the blood or tissues. That discovery decides the much disputed question of the "local" or "general" nature of the malady. The "false membrane *is* the disease," and the primary object of all medication must be to detach and remove it wherever it is accessible; for one removes thereby not only the morbific agent, but the toxalbumens which the microbe elaborates, and which are the source of the symptoms. But experiment also teaches that the bacillus does not develop on healthy or non-excoriated mucous membrane, and it is therefore of chief importance that the false membrane should not be detached violently, but gently and slowly. Cotton wool held in forceps gently and with frequent patient repetition brushed over the false membrane will gradually detach it, but care must be taken not to touch any other part. This is the first step. The next is to apply to the affected area such an antiseptic solution as has been proved by experiment to destroy the bacillus. Under M. Grancher, M. Barbier had largely studied this subject experimentally, and found carbolic acid to be the best parasiticide for this purpose; and he now recommends the application of a mixture of sulphovicinic acid (100) and carbolic acid (20) as more efficacious than carbolic acid and glycerine or olive oil, as hitherto adopted. This "*phenol sulfovicinè*" causes a transitory sensation of heat and burning, but its taste is not very pronounced, and, he says, children tolerate it well. Moreover, although frequently applied—every hour by day, every two hours by night—M. Barbier has never seen any sign of carbolic poisoning. Before applying it each time there should be practised free irrigation of the naso-pharynx, which aids in detaching more membrane, the warm water being rendered antiseptic by the addition of a small quantity of an alcoholic solution of salol (1 in 40). He claims for this procedure, vigorously carried out, a marked amelioration in the more serious signs of infection—the redness of the throat, glandular swelling, constitutional symptoms, and albuminuria. Similar principles he applies to the after-treatment of tracheotomy in laryngeal diphtheria; and he advises the prescription of calomel and naphthol to promote intestinal antisepsis rendered necessary by the swallowing of portions of membrane detached from the fauces. Then general tonic treatment, with plenty of fresh air and sunlight, and avoidance of close rooms and steam. He gives no statistics, but he claims to have seen many good results from adhering thus rigidly to the teachings of the laboratory; and certainly there is no greater field for the study of diphtheria than the Paris Hôpital des Enfants Malades, where M. Barbier's observations have been made.

SOCIAL GATHERINGS AND PREVAILING SICKNESS.

WE are not going to make ourselves disagreeable by offering any unreasonable objections to the usual juvenile parties of the season; but we cannot forbear a word of monition on the subject. Schools when reassembling require certificates from the pupils that they have been free from exposure to infectious disease. It would scarcely do to add a postscript to an invitation to the effect that the guests must fortify themselves with a similar certificate. But surely some understanding should be arrived at that persons having been lately exposed to infectious disease in their houses should, for the public good, decline to give their friends the pleasure of their company. If this be not done, New Year and other parties may become a great engine for the multiplication of regrettable cases. A little candour and unselfishness in such matters are high virtues.

ARMY RECRUITING.

THE committee appointed to consider the question of recruiting for the army has now been engaged for a considerable time. A large amount of evidence has no doubt been taken, and we may presume that the committee must by this time be discussing and deliberating about the nature of their report. The task is obviously a very difficult one, and we are afraid it will not be much facilitated by all the discussions that have taken place of late about our military organisation and administration. We gather from it all, however, that there seems to be a general agreement on two points, and on two points only—viz, that our army abroad, in India and elsewhere, is satisfactory, and in an excellent condition of physical efficiency; whereas our troops at home are mainly composed of young and immature soldiers—boys, as they are termed—so that our camps and garrisons here are but feeding grounds for the supply of our battalions abroad. We may make up our minds to one thing—viz, that we must catch our recruits very young, or not at all, and be content to feed and drill them for some time before they can be of any use to us as soldiers. Once young men have already started in any calling in life, or are of an age to be thrown upon the labour market, the army is nowhere in

the competition. The questions that have, therefore, to be answered first of all is that of an increase of pay and advantages for the army. Some hold that the soldier should have, for example, a shilling a day clear, and be relieved of the system of stoppages, with all the unpopularity and discontent which that system entails, and that it would be better to alter the present system of deferred pay, which tempts men to leave the ranks in order to obtain a lump sum of money that is only squandered as soon as it is obtained. What is wanted is a system by which a larger number of young men of really good or promising physique may be tempted into the army at one end and retained in larger numbers at the other. The disposition in this country has always been to adopt and follow the particular system that has been successful in another country, without due regard to the tastes, habits, and requirements of our own population. Speaking generally, soldiering in India is popular when once the men have arrived there and become accustomed to the country, but the voyage out is often attended with extreme discomfort to many young men, who find themselves suffering from sea-sickness in a crowded ship. The European garrison of India has necessarily been much increased of late years, and India proves a great drain on the young manhood of the army owing to the diseases incidental to that climate and period of life. It is probable that the predisposition to typhoid fever in India is more attributable to the constitutional changes induced by recent arrival in that country than to any other factor, but with a short service system this is unavoidable. People, especially young people, in the present day are less amenable to control and discipline than their forefathers, and the calls made upon them in army life in this respect are looked upon as more irksome and distasteful than was formerly the case. Notwithstanding all the objections that have been urged against our present system, we do not see that a better or more economical one, capable of providing us with a large reserve, has yet been put forward.

THE PRODUCTION OF CHEMICALS BY ELECTRICITY.

CAUSTIC soda and carbonate of soda, next to sulphuric acid, are probably the most important industrial products of modern chemical manufacture. Neither occurs to any extent in nature, and the chemist accordingly resorts to that compound containing an abundance of the element sodium, which occurs as chloride in large quantities in sea water as well as in certain mines, notably those in Cheshire. Sodium chloride is converted by two well-known processes into the carbonate. The old system, discovered by a French *savant* named Leblanc, and known as the Leblanc process, depends upon the conversion of chloride into sulphate by treatment with sulphuric acid, and subsequent formation of carbonate by heating the resulting sulphate with coal and chalk. This method was threatened with extinction a few years back by the discovery of the ammonia process, which consists in the treatment of strong brine with ammonia and carbonic acid gas, by which bicarbonate of soda is formed and precipitated, while ammonium chloride enters into solution. Ammonia is recovered by heating with lime and the carbonic acid gas by heating the bicarbonate, which is thus converted into the normal salt Na_2CO_3. The by-products of the Leblanc process, amongst which are chlorine and sulphur, are, however, valuable. Electricity now promises to act as a successful agent in the production of valuable chemicals such as those indicated. On Wednesday last we inspected the electrolytic process for the direct production of caustic soda and chlorine, as well as other chemical products, at the works of the Caustic Soda and Chlorine Syndicate, Phœnix Wharf, Church-road, Battersea. It has of course long been well known that caustic soda and chlorine can be produced from a solution of common salt by electrolysis, but the many difficulties which have presented themselves have only recently been avoided by the adoption of special plant invented by Mr. J. Greenwood. Failure has hitherto resulted from the want of a material sufficiently refractory to resist the strong action of nascent chlorine. Mr. Greenwood uses a compound anode composed of non-porous carbon plates, separated by, but in contact with, a metal coil to increase their conductivity. The diaphragm, which is said to render the recombination of the electrolysed products impossible, is comparable to a Venetian shutter stuffed with asbestos. In commencing to work, the electrolytic vessels are charged with a solution of common salt, through which a current is then passed, thus decomposing or splitting up the salt into its elements, chlorine and sodium. In the preparation of sodium, however, a secondary action takes place, hydrogen is evolved, and the sodium is converted into caustic soda. The chlorine gas is conveyed by means of branch and main tubes into several absorbers, in which milk of lime, kept in a state of agitation, takes up the gas, and forms bleaching or chlorate liquor as may be required. The caustic soda is rendered more or less concentrated according to the particular purpose for which it is destined. The cost of production has, it is stated, been determined by carefully conducted electrical and analytical tests, and they are said to demonstrate an economy of over 50 per cent. as compared with present methods. The products obtained are, as might be expected, of especial purity, and the process promises to become a formidable rival to the two methods of the present day—the Leblanc and the Solvay ammonia method.

DEATH OF A FASTING MAN.

THAT the "fasting experiments" which have of late become so numerous are full of risk to the chief person concerned will not be disputed. An account is given in the *Boston Medical and Surgical Journal*, Nov. 26th, 1891, of a fatal attempt to fast for forty-five days. A man named George Stratton attempted to perform this feat. After going for thirty-seven days and one hour on water alone, his physicians ordered him two teaspoonfuls of champagne a day. At the end of forty-one days and eighteen hours and a half, however, symptoms of heart failure became so marked that it was at once decided to stop the fast. The champagne which was given him while in an extremely debilitated condition appeared to bring on alcoholism, and the next day he was transferred to a hospital. There he was treated with stimulants and peptonised food, but was unable to rally, and died two days after admission. The necropsy showed that death had resulted from cerebral congestion caused by alcohol, with fatty degeneration of the heart as a contributory cause. Stratton was a man thirty years old, and of immense physique. At the commencement of his fast he weighed 270¾ lb., and at the end 211 lb. 8½ oz., a loss of nearly 60 lb.

LECTURES AT THE ROYAL COLLEGE OF SURGEONS.

THE following are the arrangements for the various lectures at the Royal College of Surgeons of England for the present year, each lecture to commence at 4 P.M. Professor C. B. Plowright will give three lectures on "The Diseases of the Reproductive Organs of Plants caused by Fungi," on Feb. 22nd, 24th, and 26th. Professor B. T. Lowne, three lectures on "Some Recent Views on the Development of the Embryo, and the relation of the Parablast to the Blastoderm, as exemplified in the Development of Insects in the Egg and Pupa, on Feb. 29th and March 2nd and 4th. J. Hutchinson, Esq., jun. (Erasmus Wilson lecturer),

three lectures on "Syphilitic Affections of the Bones, Joints, and Lymphatic System," on March 7th, 9th, and 11th. Professor Charles Stewart, six lectures on "The Physiological Series of Comparative Anatomy in the Museum of the College," on 14th, 16th, 18th, 21st, 23rd, and 25th March. Dr. J. Rose Bradford (Arris and Gale lecturer), three lectures on "The Physiology of the Vaso-motor System," on May 23rd, 25th, and 27th. Professor C. W. M. Moullin, three lectures on "The Operative Treatment of Hypertrophy of the Prostate," on 30th May and June 1st and 3rd. Professor H. B. Robinson, three lectures on "Certain Diseases of the Breast," on June 7th, 8th, and 10th. Professor W. Watson Cheyne, three lectures on "The Treatment of Surgical Tubercular Diseases, on June 13th, 15th, and 17th. Professor H. T. Butlin, three lectures on "Cancer of the Scrotum in Chimney Sweeps and others," on June 20th, 22nd, and 24th.

"DOCTORS AND THEIR PAYMENT."

THE coroner for the district of Upton has either been misreported or has a peculiarly illogical way of reasoning on the work that is possible to a medical man. Holding an inquest on the body of George Day, who refused to see a doctor till within a few hours of his death, it transpired that Mr. Dodd had been sent for. As he could not go, he referred the messenger to his assistant, who could not attend. Three other doctors being unavailingly applied to, the messenger returned to Mr. Dodd, who went. The patient was by this time dead. Mr. Brickwell gave evidence of such extensive and chronic disease as precluded recovery under any circumstances. The coroner is reported to have made this remarkable observation, that if Mr. Dodd was able to attend on the second occasion, he was upon the first. This is a most gratuitous and illogical assumption for a public man to make, though it seems to have carried the jury with it. There was more common sense in his remark that doctors would be more prompt in their attendance if they had some security for eventual payment. The medical man is the only person who, according to common notions, is bound to be at everybody's beck and call without hope of fee or reward. There is no propriety in such doctrine.

THE LONDON LUNATIC ASYLUMS.

THE Asylums Committee of the London County Council have reported that for some time past they have had under consideration a letter from the Home Secretary, transmitting a copy of a memorial of the guardians of the Wandsworth and Clapham Union, praying that the London lunatic asylums should be placed under the Metropolitan Asylums Board, and asking for the Council's observations thereon. The memorial showed shortly as follows: "(*a*) That the memorialists are aggrieved at the vesting of the asylums in the London County Council, and submit that the duties of the Council are so enormous that it is impossible for them to efficiently administer the asylums; (*b*) that boards of guardians should be more in touch with the management of lunatic asylums than they are at present; (*c*) that many difficulties would be removed by placing them under the Metropolitan Asylums Board; (*d*) that there is no direct link between the boards of guardians and the London County Council; (*e*) that the Metropolitan Asylums Board have control of the imbecile asylums; (*f*) that Wandsworth Asylum was transferred to Middlesex, and 400 Wandsworth patients were sent to London and other asylums; (*g*) that their patients are distributed in asylums and licensed houses all over the country; (*h*) that the guardians have great difficulty in obtaining accommodation for recent cases, and that they consequently feel discouraged in their efforts to provide for the safety and comfort of lunatics belonging to their union; and, finally, (*i*) they pray that further legislation may be applied for to enable the suggestions of the memorialists to be carried out." The committee did not think that these grievances would be lessened by placing the lunatic asylums under the control of the Metropolitan Asylums Board, and they contended that the guardians appeared to lose sight of the fact that the county authorities have to deal with a large class of insane persons outside the range of the ordinary pauper; and that were their duties in this respect transferred to the Asylums Boards even greater inconveniences and hardships than these mentioned in the memorial might occur. We quite agree with the Council in their belief that it would be unwise to make changes in a system which could hardly be said as yet to have had a fair trial. They express their confidence that the system is working well, and they deliberately assert, and we think truly, that the lunatic asylums and their inmates receive as much thought, care, time, and personal supervision as they did under the management which prevailed before the Local Government Act. The committee do not think it advisable that lunatics as well as imbeciles should be placed under the control of the Metropolitan Asylums Board; but they believe that there would be advantage if eventually both classes were under one properly constituted authority. The committee, after dealing with some further points of detail in the question, recommended that a reply be sent by the clerk to the Home Secretary embodying their observations in the above sense on the memorial.

THE DETECTION OF ADULTERATION IN BUTTER.

AN instrument which is likely to be found useful in rapidly detecting adulterations in oils, glycerine, butter, &c., has recently been devised by a continental chemist named Soudén, under the name of the "liquoscope." It consists of a cylinder of glass containing glycerine, in which are immersed two hollow prisms side by side. When both these are filled with substances having identical refractive indices a horizontal line seen through them appears continuous, but when their contents have different refractive indices the line is apparently broken, one section being above the other.

TREATMENT OF CHLOROFORM ACCIDENTS.

IN an article in a Russian surgical review Prof. Bobroff recommends the employment of hypodermic injections of the physiological solution (0·6 per cent.) of common salt in case of failure of the heart's action during the administration of chloroform. He has employed this method for four years with satisfactory results, and considers it decidedly preferable to the subcutaneous injection of ether and other stimulants. With regard to ether, he says that it stimulates the cardiac action for a time only, afterwards having a paralysing effect. Strychnine, atropine, ammonia, the previous administration of digitalis, and the inhalation of amyl nitrite, he considers more or less dangerous and by no means satisfactory, while the hypodermic use of the physiological solution of common salt is perfectly innocuous, and has proved in his hands very valuable. It is best not to wait for complete stoppage of the heart or respiration. If only a moderate quantity of blood has been lost before symptoms of danger show themselves, an ounce or so of the fluid is sufficient to inject; in anæmic patients, or where a large quantity of blood has been lost, 3½ to 7 oz. may be required. The liquid is readily absorbed, especially if the locality is manipulated a little. The pulse becomes stronger, the respirations deeper, and the patient rapidly recovers. The solution may be made alkaline by the addition of

0·05 per cent. of caustic soda. Prof. Bobroff objects to the employment of such means of peripheral stimulation as affusion of cold water, the introduction of ice into the rectum, and putting ammonia to the nostrils, as these may by reflex action induce failure of the heart and arrest the respiration. The best and safest remedies are, he thinks, injection of solution of common salt hypodermically or into the venous circulation, lowering the patient's head, galvanising the pneumogastric nerve, and the employment of Silvester's method of artificial respiration.

THE RETIREMENT OF DR. BALLARD.

ALL Dr. Ballard's colleagues and all men who know the nature of the work he has been doing in the Medical Department of the Local Government Board will hear of his retirement with very mingled feelings. It has been known to his friends for some years that his health has been impaired, and that painful attacks of illness have repeatedly been brought on by the arduous journeys eagerly undertaken in the discharge of his duties. So far we may see in his retirement cause for satisfaction; but when we consider the value of his judgment in questions of State medicine and the number of the subjects in this department which he has elucidated, when we remember the enthusiasm of his investigations and the way in which he despised labour and trouble, we cannot but regret the loss which the department and the profession must suffer. It is gratifying, however, to know that Dr. Ballard's energy and interest in questions affecting the public health are still unabated, and that we may yet expect from him in his retirement contributions to the solution of great problems for which he had but scanty leisure while liable to the calls of active duty. We cannot conclude without expressing a hope that so good a servant will be retired on terms to which the possession of every virtue of character and of service entitles him.

NIGHT REFUGES AND THE "STARVING POOR."

CASES of death from absolute starvation are certainly less common than the frequent use of this term in the daily press reports would lead us to suppose. The association of disease is usually too subtle and too intimate for us to exclude its influence upon the fatal result. Inasmuch as this factor, however, exercises after all but a secondary influence, we need hardly object if want is made a scapegoat for the double fault. A few weeks ago we mentioned a case of this kind. We would now once more direct attention to such another in which the sufferer, an infant of eighteen months, though ill with congestion of the lungs, owed this and her death mainly to hunger and exposure. The case derives a special interest from the fact that while under investigation by Mr. Wynne Baxter and a coroner's jury it elicited some rather cutting observations on statements of the Charity Organisation Society respecting the homeless poor, and because of the light it sheds upon the utility, and we may say also upon the inadequacy, of night refuges. The point first mentioned need not be enlarged upon. The censures referred to have evidently arisen from a misunderstanding which the reply published by the secretary of the Society should suffice to remove. In connexion with the refuges, the food question is again to the front. The poor child whose case has been quoted was merely housed in the shelter frequented by her mother. No nourishment was provided. In the circumstances a question naturally arises whether the night refuge should not, as in the case of parish casual wards, afford its occupants at least food enough to sustain life. Our readers will reflect that a mere trifle of expense is enough to satisfy this primary necessity if a shelter be well attended and the simplest provision only be supplied. We should like to see the management of these shelters and the ordinary casual wards more nearly assimilated, so as to facilitate the attendance of every truly needy person, due care of course being taken to discourage imposture. How this latter purpose is to be realised, however, constitutes a problem still unsolved. The key to it may perhaps be found by combining inspection and, if possible, inquiry with some system of work which does not compel residence.

THE RATING OF THE LOCK HOSPITAL.

WE are glad to understand that the rating of the Lock Hospital, to which we referred on Aug. 1st last, has now been readjusted upon appeal. The case, as our readers will remember, was a peculiarly hard one, for not only was the assessment very greatly increased, but the managing body of the hospital were shut out from appealing in the regular course by the very irregular manner in which notice of the change was conveyed to them, the fact being that the statutory notice was given to a cleaner who chanced to be upon the hospital premises, and who forgot to hand it to any person in responsibility. It was at first apprehended that this oversight might preclude the appeal, but it now appears that this is not so. We were sanguine at the time that a technical objection of this kind could not be ridden so hard, and we are glad now to learn not only that the objection has broken down, but also that a substantial measure of justice has been done by the reduction of the assessment from £2000 to £1100.

HONORARY OFFICERS OF BENEFIT CLUBS AND MEDICAL ATTENDANCE.

DR. JOHN WILLIAM of Bethesda lately sued Mr. W. J. Parry, Collnor Hall, Bethesda, at the Bangor Police Court, for £65 for medical attendance. Various defences were set up. One that Mr. Parry, who is Vice-chairman of the Carnarvonshire County Council, and Chairman of the Joint Police Committee, was entitled to be attended as secretary, and therefore member, of the Penrhyn Quarries Benefit Club; another that the charge was partly on account of a son who is of age; and thirdly that the bulk of the debt was statute-barred. The judge, Sir Horatio Lloyd, decided that £42 8*s.* 6*d.* was statute-barred, that Mr. Parry was not entitled to be attended gratuitously inasmuch as he did not pay the weekly subscription demanded from ordinary members, but that he was not liable for the charges set against his son. Judgment was then given for £18 6*s.*, his Honour declining to interfere with the question of costs further than signifying that the case was a fit one to be brought before the High Court, from which it had been transferred. The most interesting point is that a vice-chairman of a county council, who pays no weekly subscription to a club, claims to be attended as a club patient. We do not envy Mr. Parry his reflections on the non-success of such a monstrous plea.

MR. CHAMBERLAIN ON CRUELTY TO CHILDREN.

THE Birmingham Branch of the Society for the Prevention of Cruelty to Children was fortunate in securing an able exponent and advocate of its purposes at its annual meeting in the person of Mr. Joseph Chamberlain. Speaking of the necessity for the Society's operations, the right hon. gentleman had no difficulty in showing that the influence exercised by it in respect of legal evidence was of a kind as indispensable to the just restraint of cruelty as it was usually beyond the competence either of the police or of disinterested neighbours, however zealous and right minded. He drew special notice to another important fact—namely, that the prevention of cruelty, not the

punishment of ill usage, was the special aim of the Society's efforts; and in proof of this he quoted the satisfactory circumstance that of 8810 cases investigated 5064 had been satisfactorily disposed of by mere warning, while of the more aggravated class in which prosecutions had been instituted, the Society's officers had been victorious in 89 per cent. An assurance that no pains would be spared to maintain intact, wherever possible, the family tie was as satisfactory as it was happily needless. Reference was made likewise to the subject of infant insurance and of infant nursing by strangers, matters respecting which we are pleased to learn Mr. Chamberlain has not spoken his last word in Parliament. An exhortation to increased vigilance and care on the part of officials and local committees concluded an able and interesting speech, a fuller digest of which appears in the January number of the *Child's Guardian*

SMALL-POX AT DEWSBURY AND BATLEY.

A VERY serious state of things has long been maintained at Dewsbury and Batley with regard to small-pox. Neither town will erect an isolation hospital, and whenever small-pox breaks out the patients, whether paupers or not, are sent to the Dewsbury workhouse and placed in a building within a few feet only of the workhouse infirmary, which contains people who, as the Government inspector has stated, are virtually prisoners by reason of their poverty and their sickness. On several occasions the small-pox has thus spread to the body of the workhouse; but in spite of remonstrances and warnings on the part of the Local Government Board the process was repeated last May. The disease spread to the infirmary sick, and three of these unfortunate people actually died as the result. Dr. Downes, Local Government inspector, again declared the arrangement to be "absolutely unsafe," and added that it placed the workhouse "in imminent peril"; but the guardians have again admitted eighteen cases "of small-pox, or 'so-called' small-pox." It is with the locality and the constituents of the authorities concerned that the judgment must apparently remain, for the erection of a hospital for infectious diseases is permissive, not compulsory, in the present state of the law. But surely the guardians could be surcharged for the expenses involved in maintaining those who are not paupers in a workhouse building which can only legally be used for pauper purposes.

THE OUTCRY AGAINST FOREIGNERS PRACTISING IN BELGIUM.

THE *Scalpel*, one of the chief organs of the Belgian medical press, is irate with the Government for the very insufficient protection it gives to native medical men against foreign competition. According to the journal mentioned, Belgium is, of all European countries, the one where foreign doctors, or *soi-disant* doctors, find it a perfectly simple matter to obtain a licence to practise. It is only necessary to produce a diploma with a translation by the candidate himself. Sometimes, indeed, in order to save appearances, a pretence of an examination is required, which is said to be a very perfunctory sort of affair, before a jury nominated for the occasion. The editor of the *Scalpel* has had the good fortune to be present at an examination of this kind, and he promises his readers to give them some account of it, as it amused him considerably. Who is it that profits by this liberalism? Not the English, French, or Dutch practitioners, "for in their own countries they can easily obtain a practice of from £400 to £800 per annum, besides which, as there are plenty of openings in their colonies, the profession cannot well become overcrowded" No, the doctors who come pressing into the best parts of Belgium, such as the neighbourhood of Antwerp and Ostend, are those that are forced at home to maintain a struggle against economic and social conditions more than usually adverse—e.g., the Germans. Their country is overrun with doctors of every kind of science, and every year, according to the statistics compiled by a Göttingen *savant*, Professor Lexis, the German universities turn out some three hundred more doctors than there is room for. The medical profession in Ostend, which is now suffering severely from foreign competition, is advised to bestir itself and to say to the Government, "You refuse to admit unsafe guns, poisonous spirits, and trichinous pigs from Germany. Why don't you send her back her starveling doctors?" Is not this a little hard on the Germans, who, whatever faults may be found with their ham and their cheap spirits, certainly produce men who are quite capable of passing the Brussels M.D. or other similar examinations, and who, as they probably practise mainly amongst their own countrymen, who abound at Ostend, can hardly be likened to the dangerous importations mentioned. In the list of requirements exacted from foreign medical men wishing to practise in various countries the *Scalpel* somewhat exaggerates the difficulties which a continental practitioner of good standing would meet with in England.

SIR WILLIAM DALBY.

SIR WILLIAM DALBY will have completed his term of twenty years as aural surgeon to St. George's Hospital at the end of this month. In sending in his resignation to the Medical School Committee he did not apply for re-election, on the grounds that he felt that he could not give the time necessary to attend efficiently to the out-patients. We understand that the Medical School Committee have written through their chairman to express their regret at losing his services, and have unanimously recommended the board of the hospital to elect him as consulting aural surgeon.

LEICESTER AND ITS FEVER HOSPITAL.

IT is satisfactory to find that Leicester is about to remedy its deficient accommodation for the treatment of typhoid fever, and to provide a new hospital in place of its present obsolete and unsatisfactory collection of wooden structures. The Town Council had before it for consideration on Tuesday last a proposal to erect a fever hospital with upwards of 200 beds upon the most modern and improved designs, where all or any of the infectious diseases can be properly treated and kept separate the one from the other. Premiums are offered of £100, £50, and £25 for the three best designs.

INTERNATIONAL DERMATOLOGICAL CONGRESS.

THE second International Congress of Dermatologists will take place at Vienna from Sept. 5th to the 10th, 1892. Professor Kaposi is president, and Dr. G. Riehl, Bellariastrasse, 12, secretary. The subjects chosen for discussion are: Lymphatic Disease of the Skin from a Pathological and Anatomical Standpoint; the Present Position of Leprosy in Europe; Dermatomycoses, and especially with reference to their proportion in France; Late Syphilis; the Anatomy and Development of the Epidermis Pigment; Psorospermosis; the Principles of the Treatment of Gonorrhœa; Lupus Erythematosus.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Montecot, the *doyen* of French physicians, at the age of ninety-eight. In 1813, when little over nineteen years

of age, he joined, in the capacity of surgeon-general, Lemarois' Corps, which then held Magdeburg, and, after the Battle of Leipzig, was shut up in the town until the end of the war. He was a Knight of the Legion of Honour, an Officer of Public Instruction, and was decorated with the Saint Helena Medal.—Dr. P. Laure of Lyons.—Dr. Michelson, a teacher of laryngology in Königsberg.

FOREIGN UNIVERSITY INTELLIGENCE.

Greifswald.—Dr. E. Peiper has been promoted to an Extraordinary Professorship of Medicine.

Marburg.—Dr. Tuczek has been promoted to an Extraordinary Professorship of Mental Diseases.

Naples.—Drs. Manfredi and Lancetti have been recognised as *privat docenten* of Hygiene and Anatomy respectively.

WE have received from an Edinburgh correspondent an abstract (which we hope to publish and comment upon in our next issue) of an important document which has been prepared by the Edinburgh Association for the Promotion of Reform in Medical Education.

AS we go to press we receive with regret the intelligence of the death of Mr. Berkeley Hill, Vice-president of the Royal College of Surgeons, Professor of Clinical Surgery at University College, and surgeon to the hospital.

DR. FREDERIC KORANYI, Professor of Medicine at the University of Budapest, was raised on New Year's Day to the House of Magnates of Hungary.

LONDON POST-GRADUATE COURSE.

THE annual general meeting was held on Thursday, Dec. 17th, 1891, at 15, Cavendish-square, Mr. Hutchinson, F.R.S., President, in the chair.

After the minutes of the last meeting had been read and confirmed, Dr. Barker, the chairman of committee, read the financial report, from which it appeared that during the spring term 1890, when the lectures commenced, there were five courses delivered, and that during the spring term 1892 there will be eleven courses delivered at the following hospitals and institutions—viz., the Hospital for Consumption, Brompton; the Hospital for Sick Children, Great Ormond-street; the National Hospital for the Paralysed and the Epileptic, Queen-square; the Royal London Ophthalmic Hospital, Moorfields; the Hospital for Diseases of the Skin, Blackfriars; Bethlem Royal Hospital for Lunatics; the London Throat Hospital; the Bacteriological Laboratory, King's College; the Great Northern Central Hospital; the Parkes Museum; and a course on midwifery and diseases of women by lectures on these subjects at the London Medical Schools. During 1891 there had been 172 entries (160 men and 12 women). Of these, 108 were from the British Isles, 13 from the United States, 9 from Canada, 9 from the Army, 8 from the Navy, 6 from Australia, and 1 each from Sweden, the Cape, the Mauritius, New Zealand, Assam, China, and Japan. The widespread interest in the work affords great encouragement, and it is worthy of notice that whilst the bulk of the members are from our own country, men have joined who have come from the remotest parts of the world. It is also gratifying to remark that so many of the men possess high qualifications, more than one-half holding university degrees. The English, Irish, and Scotch Universities were well represented, as well as those of the Colonies and the United States. The bacteriological course conducted by Professor Crookshank in the excellent laboratory of King's College formed undoubtedly the great attraction of the courses, and was an admirable illustration of the objective method of class teaching. This course throughout was well attended. Judging from the number of inquiries, the course on Public Health and that on Midwifery and Diseases of Women will be equally successful. The treasurer, Dr. C. Theodore Williams, then read his report and presented the balance-sheet and scheme for division of fees. From these it appeared that the receipts exceeded those for the previous year, whilst the expenses had been reduced. There were 172 attending the lectures, as compared with 121 in 1890. Twenty members entered for the whole course, and 152 for one or more of the single courses. It had been interesting to observe how the men had picked out those lectures that enabled them to fill up the gaps in their previous studies. The president, Mr. Hutchinson, then addressed the meeting, and, after other speakers had discussed the reports, they were unanimously adopted. Votes of thanks were passed to the president, chairman, treasurer, and secretary, and they were re-elected for the ensuing year.

The next term will commence on Monday, Jan. 18th, and all information may be procured from the secretary, Dr. J. Fletcher Little, 60, Welbeck-street, London, W.

ROYAL COLLEGE OF PHYSICIANS.

AT an extraordinary meeting of the Royal College of Physicians, held on Dec. 17th, 1891, a communication was received on the subject of the resolution of the General Medical Council, which was moved by Sir William Turner on Friday, Nov. 27th, by which the Council determined to leave that College to substantiate the claim to register its single diploma of Licentiate or Member as a complete qualification in medicine, surgery, and midwifery.

With regard to this resolution, the College approved the course which had been taken by its officers in submitting the question for their opinion and advice to the law officers of the College, the Attorney-General, with Sir Arthur Watson, Bart., Q.C. The question raised by the College for the opinion of counsel was—(1) Are they correct in the view they take of the right of their licentiates to claim registration of their licence as a complete and independent qualification? The counsel's opinion thereon is as follows:

(1) We are of opinion that the College are correct in the view they take of the right of their licentiates to claim registration of their licence as a complete and independent qualification. (Signed) RICHARD E. WEBSTER,
ARTHUR T. WATSON.

Dec. 18th, 1891.

THE ALBERT UNIVERSITY CHARTER.

WE have received from the Secretary of the Association of Diplomates and Students of the London Medical Schools a copy of the circular which, we are informed, is intended to be sent to all the diplomates of London schools along with a petition which is to be presented to the House of Commons. The petition runs as follows:—

TO THE HONOURABLE THE COMMONS OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND IN PARLIAMENT ASSEMBLED.

The Humble Petition of the Students and Diplomates of and in the London Medical Schools

Sheweth as follows (that is to say):—

The draft of a proposed Charter, called the Draft Charter of the Albert University, hereinafter called "the Proposed Charter," has been laid upon the table of your honourable House pursuant to the provisions of an Act of Parliament made and passed in the Session of Parliament holden in the 34th and 35th years of the reign of Her present Majesty, Queen Victoria, intituled an "Act to amend the law respecting the granting of charters in certain cases," and thereby authorised to be cited as "The College Charters Act, 1871."

Your petitioners will be injuriously affected by the granting of a Charter in the form in which the proposed Charter now stands, and they desire the amendment thereof for the reasons and in the manner hereinafter appearing. Clause 1 of the "proposed Charter" provides (*inter alia*) as follows: "There shall be, and there is hereby constituted and founded, a University in and for London, with the name of the Albert University" (which University is hereinafter referred to as "the proposed University"). Clause 2 of the "proposed Charter" provides as follows: "University College, London, and King's College, London, shall be and are hereby constituted Colleges of all Faculties in the University. The following medical schools shall be and are hereby constituted Colleges of Medicine in the University: The Charing-cross Hospital Medical School, the Guy's Hospital Medical School, the London Hospital Medical School, the Middlesex Hospital Medical School, the St. Bartholomew's Hospital and College Medical School, the St. George's Hospital Medical School, the St. Mary's Hospital Medical School, the St. Thomas's Hospital Medical School, the Westminster Hospital Medical School, and the London School of Medicine for Women. Clause 3 of the "proposed Charter" provides as follows:—"The University shall have power to confer degrees in the Faculties of

Arts, Science, Law, and Medicine, and in such other Faculties corresponding to the provinces of study and educational work occupied by the University on all persons, male or female, who shall have pursued a regular course of study in a college in the University, and shall submit themselves for examination."

Your petitioners are, or have been, students of the colleges and schools named in Clause 2 of the proposed Charter, or of some or one of them. And they humbly submit that according to the text of the last-mentioned clause of the proposed Charter it will only be open to students who, after the proposed University becomes incorporated, shall undergo a course of two years' study in one of the medical schools proposed to be made colleges in "the proposed University to take the degrees, which by virtue of the proposed Charter the Council of the proposed University would be empowered to grant.

Your petitioners submit that this restriction is unjust to them and to other students and diplomates of the London medical schools who are passing or have passed through the exact course of studies and the same examinations as the future student will have to pass, inasmuch as they will be debarred from presenting themselves for examination for the purpose of taking the degrees of the proposed University unless they again attend for two years a college in the proposed University.

Your petitioners therefore submit that Clause 3 of the proposed Charter should be made retrospective, and should be altered and amended as shown in the copy of that clause next hereinafter set forth (that is to say):—"The University shall have power to confer degrees in the Faculties of Art, Science, Law, and Medicine, and in such other Faculties corresponding to the provinces of study and educational work occupied by the University on all persons, male or female, who shall have pursued, whether before or after the coming into operation of the Charter," a regular course of study in a college in the University "or in any Institution which is hereby constituted a College of the said University," and shall submit themselves for examination.

Your petitioners therefore humbly pray your honourable House that it will be pleased to present an address to Her Majesty praying Her Majesty to withhold her consent to such part of the proposed Charter as is contained in Clause 3 thereof until the same is amended as hereinbefore set forth, or to the like effect. And your petitioners will ever pray, &c.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 6751 births and 6572 deaths were registered during the week ending Jan. 2nd. The annual rate of mortality in these towns, which had been 19·1 and 22·8 per 1000 in the preceding two weeks, further rose to 36·4 last week, a higher rate than in any week since 1880. Some of this large excess is due to the delay in registration caused by the Christmas holidays during the preceding week, but it is mainly attributable to the cold and foggy weather that recently prevailed. The rate was as high as 42·0 in London and 31·9 in the twenty-seven provincial towns. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the twenty-eight towns averaged 21·2 per 1000, and was 0·5 below the mean rate in the corresponding periods of the ten years 1881-90. The lowest rates in these towns last week were 19·4 in Halifax, 20·5 in Leicester, 21·8 in Huddersfield, and 22·0 in Birkenhead; the highest rates were 37·0 in Newcastle-upon-Tyne, 38·3 in Brighton, 42·0 in London, 42·2 in Liverpool, and 45·3 in Wolverhampton. The deaths referred to the principal zymotic diseases, which had been 395 and 461 in the preceding two weeks, further rose last week to 667; they included 273 from whooping-cough, 224 from measles, 52 from diarrhœa, 48 from diphtheria, 36 from scarlet fever, 34 from "fever" (principally enteric), and not one from small-pox. No fatal case of any of these diseases was registered in Brighton; in the other towns the lowest zymotic death-rates were recorded in Huddersfield, Plymouth, and Halifax, and the highest in Blackburn, Wolverhampton, London, and Cardiff. The greatest mortality from measles occurred in Birmingham, Nottingham, Derby, Newcastle-upon-Tyne, Norwich, and Cardiff; from whooping-cough in Bradford, Oldham, Cardiff, London, Derby, Blackburn, and Wolverhampton, and from "fever" in Norwich. The mortality from scarlet fever showed no marked excess in any of the twenty-eight towns. The 48 deaths from diphtheria included 37 in London and 3 in Manchester. No fatal case of small-pox was registered in any of the twenty-eight large towns; three small-pox patients were under treatment on Saturday last in the Metropolitan Asylum Hospital at Dartford, but not one in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1471, against numbers declining from 1554 to 1465 at the end of the preceding four weeks; 101 new cases were admitted during the week, against 109 and 90 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 337 and 553 in the preceding two weeks, further rose last week to 1317, and were considerably more than double the corrected average. The causes of 163, or 2·5 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Wolverhampton, Derby, Birkenhead, Bolton, and Oldham; the largest proportions of uncertified deaths were registered in Liverpool, Blackburn, Sheffield, and Birmingham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 26·0 and 27·1 per 1000 in the preceding two weeks, declined again to 26·0 during the week ending Jan. 2nd, and was 10·4 below the mean rate during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 15·6 in Paisley and 18·6 in Perth to 28·9 in Aberdeen and 29·3 in Glasgow. The 670 deaths in these towns showed a decline of 28 from the number in the preceding week, and included 22 which were referred to whooping-cough, 11 to diphtheria, 11 to diarrhœa, 10 to "fever," 9 to scarlet fever, 6 to measles, and not one to small-pox. In all, 69 deaths resulted from these principal zymotic diseases, against 50 and 41 in the preceding two weeks. These 69 deaths were equal to an annual rate of 2·7 per 1000, which was 1·0 below the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 12 and 16 in the preceding two weeks, further rose to 22 last week, of which 15 occurred in Glasgow and 3 in Aberdeen. The deaths referred to diphtheria, which had been 4 in each of the previous two weeks, increased to 11 last week, and included 4 in Glasgow, 3 in Edinburgh, and 2 in Aberdeen. The 10 fatal cases of "fever" exceeded those recorded in any recent week, and included 5 in Glasgow. The deaths from scarlet fever, which had been 11 and 4 in the preceding two weeks, rose to 9 last week, and included 3 in Glasgow, 3 in Greenock, and 2 in Edinburgh. Of the 6 fatal cases of measles, 5 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 246 and 254 in the preceding two weeks, declined last week to 203, but slightly exceeded the number in the corresponding week of last year. The causes of 67, or 10 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·9 and 29·1 per 1000 in the preceding two weeks, rose again to 45·8 during the week ending Jan. 2nd. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 29·8 per 1000, against 20·5 in London and 25·5 in Edinburgh. The 305 deaths in Dublin during the week under notice showed an increase of 111 upon the number in the previous week, and included 10 which were referred to different forms of "fever," 8 to whooping-cough, 2 to diarrhœa, 1 to diphtheria, and not one either to small-pox, measles, or scarlet fever. In all, 21 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·2 per 1000, the rate during the same period being 5·2 in London and 2·0 in Edinburgh. The fatal cases of "fever," which had been 7 and 9 in the previous two weeks, further rose to 10 last week. The deaths referred to whooping-cough, which had steadily risen in the preceding four weeks from 2 to 5, further increased to 8 last week. The 2 fatal cases of diarrhœa corresponded with the number in the previous week. The 305 deaths registered in Dublin included 37 of infants under one year of age, and 113 of persons aged upwards of sixty years; the deaths of infants differed but slightly from the average, while those of elderly persons considerably exceeded those recorded in any week of 1890. Twelve inquest cases and 9 deaths from violence were registered; and 118, or more than a third, of the deaths occurred in public institutions. The causes of 19, or more than 6 per cent., of the deaths in the city were not certified.

MORTALITY IN QUEENSLAND.

It appears from the report recently issued by the Registrar-General of Queensland that the rate of mortality in

that colony in 1890 was considerably lower than in any recent year. The death-rate in 1890 was 13·6 per 1000, against rates ranging in the nine preceding years from 23·0 in 1884 to 14·6 in 1887. It should be stated that these rates appear to have been based upon population for each year of the intercensal years 1881 to 1890, estimated from the excess of births over deaths, and from the excess of immigration over emigration, without regard to the results of the census in April last. From a comparative table given in the report under notice it is shown that the death-rate in 1890 in the several Australian colonies ranged from 9·6 and 12·0 per 1000 in New Zealand and Western Australia, to 13·8 in Tasmania and 15·9 in Victoria. All these rates are remarkably low; and bearing in mind the difficulties in the way of death registration in very thinly populated districts, it is very possible that the true death-rates are somewhat under-stated in most of these colonies. There is no satisfactory basis for estimating the varying extent of this under-statement in the several colonies. With regard to the Queensland statistics, it is interesting to note that the deaths in 1890 included 89 of Chinese, 450 of Polynesians, and 16 of other alien races. Calculated upon the estimated number of persons living of each race, the rate of mortality was equal to 12·3 per 1000 among the Chinese, 46·4 among the Polynesians, and 10·3 among persons of other alien races. It must be remembered that these rates among aliens, mainly imported labourers, are the rates among persons in the prime of life, and in a certain sense selected lives. This fact accentuates the enormity of the excess in the death-rate among the Polynesian labourers imported from the South Sea Islands. With reference to this subject the Registrar-General of Queensland remarks: "The in-breeding for long periods of certain tribes in the islands produces a race who seem extremely liable to contract phthisis, so that the change of climate from the humid atmosphere prevailing in the islands of the South Seas to the drier air of this continent and the great difference of diet &c., all tend to predispose a naturally weak constitution to a disease most fatal amongst them." Does this explanation supply any facts to weaken the grave responsibility of the colonial authority which sanctions this imported labour system in the face of so terrible a loss of life? We would also notice that the Queensland Registrar-General, in pointing out that the death-rate among the Chinese is lower than that of the European races, omits to notice that the two populations have very different age proportions, and that, corrected for this difference, the Chinese rate shows a very considerable excess.

THE SERVICES.

ARMY MEDICAL RESERVE.

A new Royal Warrant has been issued from the War Office, which directs that in the Army Medical Reserve of Officers the new designations of Surgeon-Lieutenant-Colonel, Surgeon-Major, Surgeon-Captain, and Surgeon-Lieutenant shall be substituted for the ranks hitherto borne. It is further ordered that promotion shall take place on completion of the periods of service required according to ranks in the Militia, Yeomanry, and Volunteers, except that promotion to Surgeon-Major shall be given on completion of twelve years from the first appointment. Honorary Assistant Surgeons permitted to join the Reserve will be given the rank of Surgeon-Lieutenant.

NAVAL MEDICAL SERVICE.—The Greenwich Hospital pension of £50 a year, vacant by the death of Deputy Inspector-General of Hospitals and Fleets Andrew Murray, has been awarded to Deputy Inspector-General of Hospitals and Fleets W. H. Adam.—The following appointment has been made at the Admiralty:—Staff Surgeon Thomas E. H. Williams to the *Impregnable* (dated Jan. 2nd, 1892).

IMPROVED BURIAL LEGISLATION.—A conference was held on the 3rd inst., in the vestry of St. Edmund, King and Martyr, London, "to consider the desirability of improved burial legislation and the appointment of a Minister of Health." Archdeacon Sinclair of London presided. The subject was well discussed and a resolution adopted to memorialise Lord Salisbury, suggesting the necessity of a change with regard to burials and the need of fresh legislation on the question.

Correspondence.

"Audi alteram partem."

MEDICAL DEFENCE UNION.

To the Editors of THE LANCET.

SIRS,—Dr. Hugh Woods' criticism of the proposed alterations in the Articles of Association of the Medical Defence Union have already been fully and, I trust, satisfactorily answered both by Dr. Leslie Phillips and myself in the columns of your contemporary, the *British Medical Journal*. As, however, there may be many of your readers who are not members of the Association, and do not therefore read the journal, I must claim your indulgence, and ask you to permit me to give a *résumé* of the reasons which compelled us to advocate the alterations referred to by Dr. Woods. After three years' working it was found that certain of the by-laws were distinctly adverse to the future prosperity of the company. One of these, against the wishes of the executive, on whom the sole legal responsibility of the correct working of the Union lies, was used at the last annual meeting to work a semi-political agitation against the Midwives' Registration Bill.

Whilst not expressing any opinion for or against such a Bill, the directors felt that to use the Union's funds—which are small enough, in all conscience, and are required for the defence of the individual member against false charges—for such a purpose was adverse to the interests of the company, although, legally speaking, "within its rights." At the earliest possible opportunity, therefore, after the general meeting a subcommittee was appointed, and, aided by the solicitors, certain alterations were suggested which were considered advantageous. The repeal of the by-law permitting the funds of the Union to be used for public agitations was decided upon. If every medical man subscribed to the company no exception could be taken to the carrying out of any agitation for the benefit of the profession as a whole; but as such is not the case, the directors, in my opinion, decided wisely in wishing to husband their funds for the furtherance of the *raison d'être* of the company—viz., individual defence of the member or subscriber.

I do not believe for one moment that Dr. Woods' opinion, as expressed in his letter, will be shared by any member who will look carefully into the matter. Again, with regard to the election of the directorate. Here we follow in our proposed new laws the rules of every limited company in the United Kingdom. Instead of the whole body of directors being liable to be rejected at an annual meeting by a catch vote, we suggest that a certain number shall retire annually, so as to give a sensible infusion of new blood, but at the same time to prevent the chaos which would arise were the whole body to consist of new members, to whom the work would be unknown. The present directors have done wonders in raising the Union from such a "slough of despond" in which they found it. Dr. Leslie Phillips' work has been extremely arduous; thousands of letters are written each year by him, and each day's duties occupy some hours on behalf of the Union. All these duties cannot be learned at once, and our duty as sensible men is to retain the valued services of such men as the present directors as long as they will continue to give their time and care to the Union. The Union was wrecked before by want of such care and attention. Let us now be thankful that it is prospering, and likely to continue prospering as long as we realise that our aim is the defence of the individual member. The Parliamentary Bills Committee and the General Practitioners' Union are both at the service of those who wish to agitate for various items in medical reform. As an insurance society, our company has no right to interfere in such matters, and it is by upholding this contention that we have reaped our present success, although at the cost of adverse criticism from Dr. Hugh Woods. I trust, however, that by patience we may be able to win finally this gentleman's applause.

I remain, Sirs, yours faithfully,

A. GEORGE BATEMAN, M.B.

Longridge-road, S.W., Jan. 6th, 1892.

ANTISEPTICS IN OPHTHALMIC SURGERY.

To the Editors of THE LANCET.

SIRS,—I regret that my letter in THE LANCET of Dec. 19th was not sufficiently explicit to convey my meaning to your correspondent, Dr. Johnson Taylor. If Dr. Taylor will refer to Dubief's paper he will see that the presence of organisms in the lens after extraction was demonstrated by cultivation in sterilised broth and not by the microscope. I experimented on the rabbit's eye in order to test Dubief's results for my own satisfaction. In both experiments the object was to test the efficacy of antiseptics—that is, their power of destroying germs; and the fact which Dr. Taylor puts forward as rendering my experiment futile—namely, that I was dealing with dead matter "absolutely devoid of resisting power" towards germs—was an essential condition both in Dubief's and my own experiments. It is obviously impossible to test the efficacy of an antiseptic in protecting from germs a substance which itself possesses antiseptic power. In my letter I pointed out that we can only test an antiseptic method by experimenting in such a way that, if it fails to destroy all germs, those that escape must infallibly show their presence. I quite agree with Dr. Taylor that the living tissues possess antiseptic properties—the fact cannot be doubted; and I said that the fact of a wound doing well is no evidence that germs have been excluded from it.

Dr. Taylor admits that antiseptics do not kill germs, and that the majority of successful results are due to the power of the tissues to resist infection; but he makes the suggestion that antiseptics may so far weaken the germs as to be of service in cases in which the tissues possess only a small resisting power. Now, this is precisely the question which it is interesting to solve. *A priori* arguments will not help us. We know that in sufficient strength antiseptics kill not only the germs but the tissues, and it is a nice question to decide which of the two would die first. The supposition that antiseptics weaken the germs and enable the tissues to finish them, does not, as far as I know, rest on any better basis than the opposite supposition that the tissues may be rendered weaker and the germs enabled to destroy them. This question can only be decided by a comparison of the results obtained with and without antiseptics. Dr. Taylor thinks that the records of metropolitan ophthalmic hospitals show better results with antiseptics than without them. I shall be extremely obliged to him if he will kindly inform me what the data are which led him to this conclusion. He will of course bear in mind that to say "before and after the introduction of antiseptics" is very different from saying "with or without the use of antiseptics." Finally, Dr. Taylor begs the whole question by comparing antiseptics to a *reliable* life-belt. The *reliability* is the point at issue. A straw life-belt has been found a useless encumbrance. Antiseptics may also be worse than useless; and, as I said before, the time has arrived when it is desirable to decide this question by a comparison of the results of a large number of operations, antiseptic and otherwise. I suggest that the best way to make this comparison, and to eliminate the element of personal dexterity, which is irrelevant to the question, would be for an equal number of surgeons who use and who do not use antiseptics in cataract extraction to send you the results of 100 consecutive cases—not for publication, but to be compared and impartially reported upon by the Editors of THE LANCET.

I am, Sirs, yours faithfully,

Southampton, Jan. 4th, 1892. J. F. BULLAR.

THE ELECTRO-MAGNET AND FOREIGN BODIES IN THE RETINA.

To the Editors of THE LANCET.

SIRS,—In recording a case of removal of a piece of steel from the retina, which appeared in your issue of Oct. 24th, I did not attempt to enter into the question of the treatment of foreign bodies in the fundus generally. I merely recorded a rare case, and quoted the only successful cases which, so far as I was aware, had been previously recorded. In a subsequent number Dr. Neale wrote pointing out that I had omitted to quote cases of Mr. Snell's. I wrote to Mr. Snell to ask if that was so, and he, in reply, referred me to his series of electro-magnet cases and to the Ophthalmological Society's Transactions for 1886. Not having in my possession or available that volume of the Transactions, I relied on a search through the series I understood I was referred to, and there found the three cases I mentioned in my last letter under the head of "Retina," and the other case I quoted under the head of "Retina-vitreous." The electro-magnet was used in each of the first three cases, but without result as far as removal of the foreign body was concerned; but I may have given a wrong impression in speaking of them as cases in which unsuccessful attempts were made to remove foreign bodies from the retina, seeing that no absolute diagnosis of their presence there was made beforehand. Their being recorded under the heading of "Retina" misled me. I now find that Mr. Snell's case of successful removal was not included in the series; and having obtained the volume of the Transactions referred to, I have read his case with interest, and wish to express my apologies to Mr. Snell and my assurance that the oversight of this case was quite unintentional. I agree with Mr. Snell's remarks about the possible danger of needlessly attempting the removal of foreign bodies in the retina, having myself come across two cases in which a foreign body had remained situated for several years without materially disturbing visual function. I am, Sirs, yours faithfully,

Cardiff, Jan. 5th, 1892. J. TATHAM THOMPSON.

MR. A. E. BARKER'S FIFTY CONSECUTIVE CASES OF AMPUTATIONS OF THE LIMBS.

To the Editors of THE LANCET.

SIRS,—As a practical surgeon I congratulate Mr. A. E. Barker upon the success which he has obtained in his fifty cases of limb amputation; but the importance of the report is marred by the absence of any information as to the ages of the forty-six patients who recovered. This omission is unfortunate, as the age is one of the factors which tells largely either for or against a successful or an unsuccessful operation, and unless the information in this direction is supplied the usefulness of Mr. Barker's statistics for the purpose of comparison will be minimised, if not destroyed.

I am, Sirs, yours truly,

Wolverhampton, Jan. 2nd, 1892. T. VINCENT JACKSON.

THE INTERNATIONAL SANITARY CONFERENCE AT VENICE.

(FROM OUR ITALIAN CORRESPONDENT.)

ON Dec. 12th THE LANCET announced that a Conference would meet at Venice on Jan. 5th to consider the "re-organisation of the Sanitary Commission of Alexandria, and the conditions under which vessels in quarantine may pass through the Suez Canal." The preparations for this important Conference are now, I may say, complete, Germany having just nominated as her representatives at the same Count Leyden, Consul-General at Cairo, and Dr. Kulp of Alexandria. By arrangement of the Venetian Town Council the sittings will take place in the Palazzo Farsetti, and during the six days these will occupy every disposition will be made for the convenience and recreation of the delegates. The Piazza di San Marco will be illuminated on the evening of the 5th, a "serata di gala" will be given at the Fenice theatre on the 6th, and the Commendatore Colmayer, the prefect, will hold a reception in honour of the representatives of the Powers at Ca' Corner on the 11th. So far nothing will be wanting to promote the success of the Conference; but there are already indications that its proceedings will, to say the least, be animated. French anglophobia will, it is feared, find matter distinctly contentious in the proposal to dispense English vessels from sanitary inspection in the Suez Canal, and its organs in the press are already calling on the Austro-Hungarian and German delegates to resist the "pretensions" of England in the interests of the "general hygiene of Europe." The old prejudices in favour of quarantine, which, it will be remembered, made shipwreck of the Conference that met with a similar object in Rome in the May of 1885, will be pressed once more into service—ostensibly to "protect the general hygiene of Europe," really to combat what France absurdly contends is the policy of England: that of making the "Red Sea an English lake." There are signs, however,

that France will have less support for her anglophobia than she counts upon. In the first place, quarantine has been sufficiently discredited—by none more than Tommasi-Crudeli—since the Rome conference to make it a very doubtful weapon of obstruction before such an international tribunal as that which meets on the 5th. In the next place, France may count upon receiving as little aid from Italy as she is likely to do from Austria-Hungary or Germany. A good deal has happened since 1885; and as evidence of what is likely to be the attitude of Italy towards England at the approaching conference, I may quote the opinion of a high-placed Italian publicist. "The instructions," he says, "received by our delegates are strictly reserved and not to be divulged. But from the demeanour of France in Egypt, smarting as she is under the loss of her influence there, and bent on always creating obstacles for *la perfide Albion*, and, on the other hand, from the cordial relations we enjoy with the 'Cabinet of St. James,' we may anticipate perfect harmony of views between England's delegates and our own." Italy, as already announced in THE LANCET, will be represented by his Excellency Signor D'Arco, Under-Secretary of State for Foreign Affairs, who will have as his assistant that skilled diplomatist the Marchese Silvio Carcano, Consul-General of Italy in Egypt, who as resident minister in Chili asserted Italian interests in South America with equal ability, firmness, and tact. Another Italian representative will be Professor Pagliani, Director of State Medicine in the kingdom of Italy, and yet another will be Dr. Andrea Torella, sanitary delegate in Egypt, and intimately acquainted with the hygiene of that country, especially in Red Sea waters. These men, according to the Italian publicist just referred to, are much more in unison with English than with French views of international sanitation, and will, he expects, receive from the enlightened delegates of Germany and Austria-Hungary a support for the reformed sanitary regulation of Red Sea traffic which will more than outweigh the *vis inertiæ* of the Porte or the obstructive tactics of France.

A list of the statesmen and hygienists who represent the Powers at this conference has just been officially given by the organ of the Italian Government, and in the following order:—England: Mr. J. W. Lowther, Under-Secretary of State for Foreign Affairs, and Dr. Mackie, English delegate to the Sanitary Council of Alexandria. France: M. Camille Barrère, chargé d'affaires at Munich, and Professors Brouardel and Proust, the former President of the French Sanitary Council, and the latter Inspector-General of the Sanitary Service of France. Austria-Hungary: Geheim-Rath Count Karl Küfstein, Herr C. von Csiller, ex-Consul in Egypt, now delegate to the Danube Commission and Consul-General at Galatz, and Dr. von Nagel, Austro-Hungarian, delegate to the Sanitary Council of Constantinople. Germany: Count Leyden, Consul-General at Cairo, and Dr. Kulp, delegate to the Sanitary Council of Alexandria. Russia: The Privy Councillor Jomini. Spain: The Resident Minister, De Bagner, and Dr. Maria Cortezo. The Netherlands: Dr. Jonkheer-van-de-Does-de-Willebois, Consul General at Cairo, and Dr. Ruysch, Sanitary Councillor to the Minister of the Interior. Belgium: M. E. Beco, Secretary-General to the Ministry of Agriculture, Industry, and Public Works. Denmark: Count Knuth, Minister at the Court of the Quirinal. Egypt: Butros Pasha, Under-Secretary of State to the Minister of Justice, M. Mieville, President of the Sanitary Council at Alexandria, and Mahmend Pasha, vice-Director of the Internal Sanitary Service. Greece: by her diplomatic representative at Rome and by her delegate to the International Sanitary Commission at Alexandria. Turkey: by four delegates (names not yet announced); and Italy: Count d'Arco, Under-Secretary of State for Foreign Affairs; the Commendatore Pagliani, Director of the Sanitary Office in the Ministry of the Interior; and the Commendatore Carcano, Consul-General in Egypt.

January 2nd.

FRENCH OPINION ON QUARANTINE.

(FROM OUR SPECIAL CORRESPONDENT.)

THE meeting of the International Conference at Venice to discuss the question of quarantine renders it interesting to study the views entertained abroad on this subject. M. Henri Monod, who is Director of the Public Hygiene Department at the Ministry of the Interior, represents the most enlightened French views on the subject. M. Monod has an excellent knowledge of English, and his recent publication on the progress of sanitary reform in England proves that he thoroughly appreciates what has been achieved in this country. Under these circumstances I availed myself of M. Monod's invitation to call and talk the matter over with him. M. Monod lives in the English style—that is, not in an apartment or flat, but in a villa that stands by itself. His library is full of English publications, notably all the Local Government Board Blue Books relating to public health, the Registrar-General's returns &c., which he estimates so highly that he has had them preserved in artistic bindings. His conversation showed that these works had not rested idly in his library, but had been carefully studied. It was also very soon evident that very considerable misunderstanding prevails as to the views which in England it is supposed the French entertain with regard to quarantine and the transmission of cholera. M. Monod again and again protested that he did not believe there was any difference of opinion between Dr. Buchanan, Dr. Thorne Thorne, and himself. M. Monod recognises that by the adoption of sanitary measures, rather than by the enforcing of quarantine, epidemics can best be averted; but he insists that England, like other countries, sought to protect herself by quarantine till such time as her great sanitary works are completed. Quarantine was maintained in 1866, for Sir John Simon protested against it, and urged that it had not prevented the 14,000 deaths from cholera. It was only in 1884 that England was again seriously menaced by cholera, and by that time such great progress was accomplished in sanitation that England could afford to dispense with quarantine. If, he said, the English expect such unhealthy, badly drained ports as Marseilles, Toulon, Constantinople, &c., to dispense with quarantine, then they expect foreign countries to do what England herself did not do.

M. Monod argues that English medical men recognise that cholera is endemic in India, that it can be transmitted, notably by soiled linen brought from India in a ship. It does not matter whether such a ship be English or foreign; the fact that soiled linen is on board an English ship does not make it less infectious. Of course I was obliged to recognise that the English flag did not possess any special antiseptic properties, and M. Monod reminded me that in 1832 the cholera came to France from England, the epidemic commencing at Calais. Then again in 1865 an English ship, the *Sidney*, brought the cholera to Egypt, whence it spread in Europe. England by its geographical position enjoys a natural quarantine—namely, the time vessels take to reach its shores. But the English Crown Colonies of Cyprus, Malta, and Gibraltar, which are in the same position as the Mediterranean Powers, impose quarantine regulations of even greater severity than these latter. M. Monod knows that English scientific men do not approve of the protective measures adopted by these colonies, but he thought they would be in a better position to convince foreign countries if they had succeeded in convincing their own countrymen. In answer to this point, I ventured to mention that during the great cholera epidemic of 1885, when I was at Gibraltar, the authorities explained to me that they did not approve of the quarantine measures, which they nevertheless very rigorously enforced. But in times of peace Gibraltar is nothing more than a coaling station and a barren rock. For their meat and vegetables the inhabitants are entirely dependent on their trade with the Spanish continent and with the Moors of Tangiers. Their communications with these people would have been cut off, nor would ships have been able to call for coal, if they had not strictly enforced quarantine regulations. What was done at Gibraltar was done in deference to the pressure brought to bear by other nations. M. Monod's case was stronger when he rejoined that the delegates from Canada and Australia to the London International Congress of Hygiene had spoken energetically in favour of quarantine. Yet, with all this, M. Monod is not himself in favour of quarantine. He only insists that England should not talk too loudly on the subject, for England very carefully put her own house in order before she proclaimed the principle of the abolition of quarantine; and even now, in England, measures are taken that do not fall far short of what is understood by the word quarantine. Thus in June, 1889, the *Neva*, of the Royal Mail Company, arrived at Southampton with yellow fever on board. This ship was kept in quarantine for ten days.

To bring the conversation to a practical issue I inquired what it was the French desired. M. Monod replied

that ships coming from India should be stopped on entering the Suez Canal, and that all personal linen should be disinfected by steam under pressure, as was done so rapidly and successfully on the Spanish frontier during the cholera epidemic of 1890. This need not occasion a delay of more than about five hours, and even this delay might be avoided if the ship carried a disinfecting oven, or if it could be proved that all the clothing had been disinfected in India before the passengers came on board. Should there be a case of cholera on board, then M. Monod thought the entire ship ought to be disinfected, the patients isolated, and the passengers and crew detained for five days after the last case, this being generally considered the period of incubation for cholera.

M. Monod based his demand for measures of this description on the insalubrious condition of our Indian colonies, and forthwith proceeded to quote his authorities. Dr. Simpson, medical officer of health of Calcutta, in his Report on Sanitary Measures in India in 1889-90, p. 122, says: "The decline in fever mortality is not so marked as to justify much congratulation on the improvement of public health." On page 123, Dr. Simpson says: "Each year's delay in carrying out the construction of broad streets brings with it greater difficulties and expenses; the crowding together of houses is becoming greater, the open spaces are being more encroached upon, the breathing space is gradually contracting, and the localities are progressively attaining a more unhealthy state." According to Mr. Ollivant, Municipal Commissioner of Bombay: "The most graphic description of the foul state of some districts will not give as good an idea of the truth as a quarter of an hour's visit;" and the Deputy Sanitary Commissioner of Madras, describing the town of Tirupati, says: "There are no public latrines. Portions of backyards are set apart for private resort, holes being left in the walls so that pigs may enter and clean up. People defecate anywhere, and the whole town is pervaded with the odour of pig's dung and human excreta.' In spite, however, of the want of sanitation there has been, it is said, a reduction in the death-rate of India; but M. Monod pointed out that the English themselves did not attach much faith to these figures. Sir B. Simpson, Sanitary Commissioner of the Indian Government, states that the death registration is so imperfectly conducted that it is impossible to say whether better health or more careless recording is the cause of the apparent reduction. In any case, there seems to have been no reduction in the mortality from cholera. These are the figures: In 1878 there were 318,223 deaths from cholera; in 1879, 269,336; in 1880, 118,856; in 1881, 161,712; in 1882, 350,971; in 1883, 248,860; in 1884, 287,600; in 1885, 385,928; in 1886, 208,371; in 1887, 488,788; in 1888, 270,408. M. Monod referred also to Dr. Pringle's speech at the London Congress of Hygiene, when he declared that 95 per cent. of the population of India lived in villages where their water-supply was contaminated. He alluded to the descriptions made by Mr. Ollivant of Bombay, by Dr. Holbein Herdley, and Mr. Baldwin Latham, who declared that the statistics of Calcutta and Bombay proved that the fearful mortality was due, not to the effects of the Indian climate, but to the total absence of sanitary measures. M. Monod then displayed some graphic charts, which showed that while from 1878 to 1888 the general mortality had decreased in England from 217 to 177 per 10,000 inhabitants, the mortality from cholera in India was, on the contrary, increasing. Yet English sanitarians recognise that cholera is a preventable disease. Even in India this has been proved over and over again. At the International Conference held in Rome in 1885 it was understood that the Indian Government would adopt and enforce special sanitary measures to check the development of cholera in India. At the London International Congress of Hygiene, held in 1891, Dr. Brouardel challenged the English representatives to show what had been done in India in conformity with the resolutions voted at Rome in 1885. M. Monod now maintains that if any serious sanitary progress had been made, the prevalence of cholera in India would have decreased.

Pending, therefore, more energetic action in India, M. Monod maintains it is necessary to take precautions against ships coming from India. He recognises that the Native Passenger Ships Act of 1887 constitutes an important step in the right direction. To have rendered obligatory the presence of a surgeon on board a ship carrying 100 pilgrims is an excellent measure; but why should the examination of passengers before they come on board be only facultative? Perhaps such examination will only be practised when a violent epidemic is prevailing. M. Monod insists that, in any case, pilgrims before they are allowed to embark should obtain a clean bill of health or sanitary passport. But not only should their persons be healthy, their clothes should be clean. These clothes can rapidly and without damage be sterilised by exposing them to superheated steam under pressure. This was very conclusively demonstrated by the scientific experiments of the Jury at the Universal Exposition of 1889. Thirty-four English ocean steamers have on board apparatus for this purpose. Such slight expense can render great service. If every pilgrim was examined medically and his clothes disinfected before he left India, the chances of importing cholera into the Red Sea would be very materially reduced.

Reverting to the question of quarantine, M. Monod thought that the English unwisely exaggerated when they made the sweeping assertion that quarantine could be of no service. M. Monod believed that there was something better to be done than the imposition of quarantine. In his opinion, medical inspection and disinfection offered a much more effective guarantee than the ancient system of quarantine, but to say that quarantine had never rendered any service was to fall into the other extreme. In 1891 an English ship, the *Dekkan*, arrived at Camaran with 1200 pilgrims on board. There had been cases of cholera among these pilgrims. The pilgrims went to Jeddah, and then to Mecca, and cholera followed in their wake; a severe epidemic ensued. On the other hand, the ship *Adana* left the port of Jeddah and went to Tor with 971 pilgrims on board. Eighteen deaths from cholera occurred during the journey, and six more while the passengers were landing. But at this port quarantine was imposed. Altogether more than 10,600 pilgrims were kept rigorously in quarantine, and the cholera did not travel any further. Egypt and Europe were saved. It would be difficult not to conclude that in this case quarantine was successful; therefore it is not always useless.

All these views of the questions at issue had not been sufficiently expounded in England; at least, M. Monod was tempted to believe that this was the case, because what was said by the French speakers at the London International Congress of Hygiene seemed to surprise the English members present. It was very regrettable that the question was not more fully discussed at that Congress. However, M. Monod hoped that a cordial agreement would ultimately be established between all the nations concerned, and certainly cholera would never be stamped out without the active assistance of England. Such were the main points of my lengthy conversation with M. Monod, and I was well pleased to have an opportunity of gathering from so competent an authority what were the views entertained in French Governmental circles.

Paris, Dec., 1891.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Victoria and the Albert Universities.

A MOVEMENT has lately been set on foot for the Victoria University to oppose the grant of a Charter to the proposed new Albert University for London. Sir George Young has sent a strongly worded letter to several of the leading newspapers in this district against such movement, especially as the opposition comes entirely from the medical element. He asserts that the fears expressed as to the lowering of the standard of the entrance and scientific examinations is mere surmise, and asks, "Why should two groups of educational institutions, hitherto friendly, each with ample work to do, and fair, though not superabundant, resources for doing it, be brought into violent antagonism on such insufficient grounds?" He asserts that in matters medical the Victoria University has an enormous advantage over the proposed new one, and advises the agitators "to let well alone."

The Proposed Infirmary Extension.

It was noted in these columns some time ago that a memorial had been circulated, supported by a very influential section of the subscribers to the Infirmary, asking the Board to stay their hand with regard to the proposed extension. It is expected that very shortly plans will be ready showing how the extension is to be carried out. But

the opponents thereto contend that the preparation of plans is altogether premature, the principle of extension upon the present site being the first thing to consider. The opposition to any further extension on the present site is apparently gaining strength, and with the medical staff by no means unanimous, the governing Board also divided in opinion, and a hostile feeling in the city Council as guardians of the open spaces in the city, the scheme so far does not appear very likely to be carried. A series of suggestions from the opposing memorialists for providing a new hospital as a branch of the Infirmary appears to have met with little favour by the governing body.

Salford Royal Hospital.

The financial condition of this charity has for some time caused its treasurer and managing committee some anxiety. At the present time there is a deficit of nearly £5000, and a public meeting was recently called by the Mayor of Salford to consider what means should be taken to place them in a more satisfactory position. The meeting, taken altogether, was not a marked success—the attendance was small, and the mayor, in his speech, made some remarks which did not meet with general approval. He stated, what is no doubt true, that many wealthy men in Salford contributed little or nothing to the hospital's support, and he also charged the working-classes with giving much less than might be expected from them. Mr. Mather, M.P., in the course of his speech, referred, as did influential speakers at the recent public meeting of the Hospital Sunday Committee, to the possible application in the future of public moneys from the rates for the support of hospital charities. At the close of the meeting £805 was subscribed and a general appeal made to the inhabitants of the borough for funds. The senior surgeon to this hospital, Mr. Stocks, has just resigned his post after a service of thirty-five years. When he first joined the staff in 1847 there were but ten beds, to-day there are 125; but unless more money be soon forthcoming, many of these must remain empty.

Manchester Guardians.

The Bishop of Manchester and Mrs. Moorhouse recently paid a visit to the workhouse and hospital belonging to the guardians at Crumpsall. They were not content merely with looking, but gauged the quality of the food &c. by tasting. The dinner on the day of the visit chanced to be pea soup, which his lordship pronounced to be excellent. The guardians have for some time past endeavoured to assist the sanitary authorities in their efforts to deal with dirty and insanitary districts. Two of their medical officers have written letters to the guardians, pointing out that in a large number of cases the dirty and careless habits of the people themselves are more to blame than the actual condition of the houses and properties, a conclusion which our late medical officer of health, Mr. Leigh, often arrived at.

Lead Poisoning.

At a large dye works two cases of lead poisoning have occurred, both proving fatal. The victims were young girls, and from the evidence given before the coroner it would seem that the utmost carelessness is shown by the employées, who will not avail themselves of the means provided by the firm to minimise the risk of their work, sitting down to their meals with unwashed hands, often covered with the dangerous lead pigments. It is to be hoped that these two fatalities will serve as a warning, and that more stringent rules will be enforced against those who will not protect themselves.

Removal from the Register.

The removal of Mr. Gunn's name from the Register by the Medical Council has been duly reported in your columns. A petition is being got up and largely signed for presentation to the Medical Council, asking that he may be reinstated, as it is thought that, wrong as his conduct was, many other worse offenders than he, in the matter of covering unqualified practice, go scot free.

Rabies in Lancashire.

Notwithstanding that the muzzling order is supposed to be in force in several parts of the county, more cases of rabies were reported last year than in the previous one, and the Board of Agriculture have addressed a communication to the local authorities of the districts chiefly concerned, suggesting that the regulations should be more stringently and efficiently carried out.

Cremation.

A report referring to the progress of the erection of the crematorium has been issued. It is hoped that in about three months it will be ready for use, and that Sir H. Thompson or the Duke of Westminster will be present at its completion. It is confidently stated that, taken as a whole, it will be one of the most perfect yet constructed, and that when completed the buildings will be of an ornamental character from an architectural standpoint. The cost has exceeded the first estimate, and it will require £7500 to complete the whole scheme, of which £3000 still remains to be raised. Our neighbours at Liverpool, not to be outdone by Manchester, are taking steps to provide themselves with a crematorium, so that we shall not be able to look to that city for any support, as was at first anticipated.

Manchester, Jan. 5th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The High Death-rate in Newcastle.

WITH regard to the recent high death-rate in Newcastle—viz., for the week ending the 26th ult., 44·6 per 1000,—Dr. Armstrong, our city medical officer of health, has presented a lucid report to the sanitary committee of the corporation. He shows that the deaths for the week were 161, against 82 in the corresponding week of last year, or an increase of 79. The principal factors in producing these high figures, Dr. Armstrong shows, are diseases of the respiratory organs 53, whooping-cough 10, while influenza has caused 11 deaths; phthisis has also caused 10 deaths, and measles 9 deaths. Although 51 cases of infectious diseases have been notified by practitioners during the last fortnight, they are not responsible for the high mortality, as the death-rate from scarlet fever and diphtheria has been low. It would appear, then, that our high mortality is to be attributed to the season, its changeable nature and at times low temperature acting with deadly effect on weak and aged persons.

Death from Lead Poisoning in Newcastle.

Another of these very frequent cases of fatal lead poisoning took place in Newcastle last week. It was shown at the inquest that a young married woman had worked at the white lead works for fifty-three days when she was found by the surgeon to the works to be under the influence of lead. On the Sunday before Christmas Day she was seized with convulsions and vomiting, and died on the 31st ult. It was also shown that some of the women at the works neglected to avail themselves of the precautionary measures placed at their disposal at the factory. The jury found that the deceased died from lead poisoning.

Sunderland: Contagious Diseases.

At a late inquest at Monkwearmouth the coroner for the district made some very strong remarks on the prevalence of congenital syphilis in the seaports of Sunderland and Shields. He said if the people who were agitating for the repeal of the Contagious Diseases Act could go round his district with him and see the fearful ravages which these diseases caused, and the hundreds of children born to die in these boroughs from loathsome affections before they had completed a single year of their existence, they would change their minds and hesitate to talk about a subject of which they know nothing.

Influenza.

Influenza is still very prevalent in Newcastle and Gateshead, and in most of the Tyneside and surrounding villages; it is also reported as very prevalent in Richmond, Yorkshire. The death of a very old surgeon, Mr. Richard Bowes, aged eighty-two, is announced as having occurred at the latter place. Mr. Bowes was an M.R.C.S. and L.S.A., 1831, F.R.C.S., 1871.

Sad Accident to a Durham Surgeon.

It is reported that, about nine o'clock on Monday morning last, a serious accident befel Mr. Dunlop, surgeon, of Leamside, near Durham, who by some means got in the way, near Rainton, of a train proceeding from Newcastle to the south, the engine of which struck Mr. Dunlop on the left side and knocked him on the metals, the whole of the train passing over his left leg. He was promptly removed

to the Durham County Hospital, where (in addition to the terrible injury to the leg, which it was found necessary to amputate) it was found he had received severe scalp wounds; but at the time I write he was reported as doing well.

The Gateshead Disaster.

Another death has taken place arising out of the panic at the Theatre Royal, Gateshead, in the case of a man aged twenty-six, who, in order to get out of the building, jumped from a window of the theatre, fracturing his jaw and injuring one of his legs. He was removed to the Royal Infirmary at Newcastle, where he died last night. This death makes the number of those fatally injured by the panic twelve in all—ten children and two adults.

Newcastle-on-Tyne, Jan. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

THE statutory general meeting of contributors to the Royal Infirmary was held on Monday, Lord Provost Russell presiding. The annual report was submitted, from which it appears that during the year 8162 patients were admitted, while 610 remained from the previous year. Of these, there were dismissed cured 3840, relieved 2990, dismissed on other grounds 719, and died in the hospital 610. Of the total cases, 3878 were ordinary medical ones, while 4281 were surgical. The greatest number of patients in the hospital on any one date was 694, and the lowest 579. Of the total cases, 3811 were from Edinburgh, 582 from Leith, and 3766 from the country. The mortality was 5·4 per cent. after deducting the cases which died within forty-eight hours after admission, and which were due to severe injury, or were of a hopeless character when admitted. The report then discusses the finances of the institution, and regrets that the Sunday and local contributions are not increasing with the increase of population. It also expresses the hope that the country contributions may increase, and that the north of England may send them help, as several hundreds of patients come from the northern counties for advice and treatment in the infirmary. It then discusses at length the question of the proposed extension of the hospital by adding 200 beds to it. The proposals under this head are similar to those which have already appeared in the columns of Scottish correspondence, and entail an outlay of £70,000 in building &c., and an additional charge of £10,000 per annum for maintenance. The managers are willing to proceed with the extension if the contributors approve, and if the public show their sympathy with the proposal.

Health of Edinburgh.

The mortality last week was 108, and the death-rate 21 per 1000. Diseases of the chest accounted for 50 deaths, and zymotic diseases for 7. The intimations for the week comprised cases of typhoid fever 4, diphtheria 2, scarlet fever 24, and measles 12.

Jan. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Mr. Wharton.

MR. WHARTON'S funeral took place on Monday morning, and was largely attended. The College of Surgeons, of which he was an ex-president, was represented by Mr. Gray Croly, President, who was attended by the mace-bearer, carrying the mace draped in black. At St. Peter's Church, where the first portion of the burial service was read, the coffin was carried from the hearse to the church by six former pupils of the deceased. Wreaths were sent by the students of the Meath Hospital, also by the lady superintendent and nursing staff, and by the inmates of the Royal Hospital for Incurables. The late Mr. Wharton was a gentleman who was greatly respected by all classes, and loved and esteemed by his late colleagues of the Meath Hospital. He held some appointments, among the rest that of medical visitor in lunacy under the Court of Chancery, which has now been conferred on Dr. J. M. Finny, President of the Royal College of Physicians.

Death from Hydrophobia.

About two months ago a boy named Beale, living in Kilkenny, was bitten by a dog, which was destroyed, and on examination was found to have been suffering from rabies. Beale and two other children bitten by the same dog were at once sent to Paris and were treated by the Pasteur method, and returned home about a fortnight since. On Sunday last symptoms of the dread disease appeared in the case of Beale, and he died the same evening. The other children are still quite well.

Fever in Dublin.

During the last quarter of 1891 the deaths from typhoid fever amounted to 100; from typhus fever, 4; from ill-defined fever, 2; while the mortality from scarlet fever was only 2.

Health of Ireland.

In the September quarter there were 25,834 births registered and 17,076 deaths. The birth-rate was 0·6 under the average rate for the corresponding quarter of the past ten years; and the death-rate 0·2 in excess of the average. The returns of pauperism show a decrease of 652, or 1·6 per cent., in the average number of workhouse inmates on Saturdays during the quarter, and an increase of 681 in the average number of persons on out-door relief. There were no deaths from small-pox, the mortality from measles and scarlet fever was exceptionally low, and although whooping-cough was prevalent in several districts, and enteric fever and autumnal diarrhœa caused a rather large number of deaths in Dublin and Belfast, the general mortality from these diseases was below the average for the September quarter.

New Buildings at Queen's College, Belfast.

On Jan. 4th, the erection of a new suite of buildings of great importance was commenced at Queen's College, Belfast. For many years the accommodation for students of chemistry has been quite inadequate, but this difficulty will soon cease to exist, as the Treasury have sanctioned the erection of the necessary additional buildings required, on which workmen began operations on Monday last. This new erection will form a detached block, built on a line with the north wing of the College towards the east. When completed it will contain a new lecture theatre for the chemistry class, with seats for 250 students, a large and amply fitted practical class-room, laboratories for the students, a private laboratory for the professor, a chemical museum, special rooms for water analysis, combustion, photographic chemistry, and other purposes. It is hoped a portion of the buildings will be ready for use during the next collegiate session. To the exertions of Dr. Hamilton, President of Queen's College, it is due that this grant for the erection of these buildings has been obtained.

The President of Queen's College, Galway, has retired.

Jan. 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Gratuitous Disinfection in Paris: a Description of the Modus Operandi.

A FEW years ago the Prefecture of the Seine established three disinfection depôts in this city, and regulations for their efficient working were drawn up. It may prove of interest to the readers of THE LANCET to be made acquainted with the details of these regulations, which are, I believe, strictly conformed to. In order to procure the disinfection of a fever-tainted room and its contents, the doctor or any other interested person addresses an application by telephone, telegraph, or post either directly to one of the above-mentioned establishments, or indirectly through the nearest commissary of police, who communicates at once with the officials charged with this duty, for which no fee whatever is exacted. On the receipt of the summons, a properly equipped vehicle is despatched to the address indicated. The room is first cleared of all portable objects, which are forthwith packed in stout canvas bags brought for the purpose. These packages having been deposited in the van, the room and such of its contents as are non-portable are subjected to a thorough spraying, practised with an apparatus invented by the firm of Geneste and Herscher, the liquid employed being a 1 per 1000 sublimate solution mixed with a 5 per 1000 solution of tartaric acid. The spray generated by

the apparatus is so fine that it penetrates all stuffs without deteriorating the texture. The van and its contents are then driven to the *bureau de désinfection*, into a special block of which it is admitted by a special entrance. The van is unloaded by the same employés, and the bags are carried to a room adjoining the oven-chamber. The van is then disinfected by means of the spray above mentioned. The disinfecting room is spacious, and contains ovens built into the walls, an incinerator for the destruction of useless contaminated objects, and an enormous vat for the washing of fæces or blood-stained linen before to their introduction into the ovens. This preliminary washing is done in order to prevent the stains becoming permanent. All the tainted objects—clothing, bedding, &c.—are then placed in the ovens, which are composed of vast cylinders filled with steam under a pressure of seven-tenths of an atmosphere, which brings its temperature up to 110°—115° C. or 230°—239° F. A sojourn of fifteen minutes suffices for the complete disinfection of the contents of the ovens. In order to obviate the inconveniences of the phenomenon known to physicists by the name of "calefaction," the temperature is suddenly lowered every five minutes. This manœuvre brings about the liquefaction of a certain quantity of vapour, which, moistening the objects, enables the steam to penetrate them. At the expiration of the fifteen minutes, the articles are removed from the ovens through special openings leading into a room from which all contaminated objects are rigorously excluded, and which is manned by a special *personnel*, who, having packed the purified bedding &c. in a disinfected van, convey them back to their destination. All the *employés* of the *bureau de désinfection* are dressed in canvas, and whenever the exigencies of the services render the passage of the men from the contaminated to the aseptic side of the establishment necessary, they divest themselves of their uniform and undergo a thorough washing with an antiseptic solution. A few figures will illustrate the increasing popularity of this still novel institution. At one of the *bureaux* situated in the Rue des Récollets, 274 disinfections were conducted in November as against 63 in January. During the past year the total number of disinfections for the three *bureaux* was 3414.

Cocaine as an Anæsthetic.

The frequent accidents attending the administration of chloroform render the study of the utility of cocaine employed subcutaneously as a local anæsthetic agent a matter of considerable importance. It is therefore not surprising that a discussion on its merits and demerits should crop up periodically at the meetings of such a body as the Société de Chirurgie. On the 23rd ult. the subject was again revived, and several competent authorities related their experience of this much-abused method of producing anæsthesia. M. Quénu's experience of the drug is limited to sixty operations, the strength of the solution employed being one-fiftieth, and the maximum quantity of cocaine injected in each instance being 7 centigrammes. In three subjects disquieting symptoms manifested themselves; in one (radical cure of hydrocele) these symptoms were formication of the extremities, pains, anæsthesia, and finally cerebral excitement. This surgeon now never exceeds 10 centigrammes as a dose. M. Schwartz's experience extends to 300 operations, in which the drug was employed without accident. Once, however, after the injection of a solution into the tunica vaginalis, a *commencement d'accident* occurred which was promptly obviated by the incision of the serous sac. Following Kummer (experiments on the lower animals), he ascribes great importance to the influence of Esmarch's bandage on the tolerance, in given cases, of the drug, the compression, by retarding diffusion, allowing of larger doses being exhibited. In operations on the limbs his maximum dose is 7 centigrammes; for the tunica vaginalis 10 centigrammes, and for the face and trunk 5 centigrammes. M. Regnier has witnessed two cocaine accidents (dose 1 centigramme) in his surgical practice, both patients being "cardiacs." In one, symptoms of cardiac failure (asystole) developed, and the individual died a month later. M. Moty has employed cocaine in dental practice between 5000 and 6000 times, and only on two occasions, and that quite recently has he experienced any *contretemps*. He opines that the concentration of the solution has much to do with the danger incurred. M. Reclus shares this opinion, and is persuaded that a 1 per cent. solution is strong enough for all purposes. He has utilised cocaine in over 1000 operations without encountering more than a few *alertes*. With injections of from ten to twelve centigrammes, he has frequently performed painlessly such operations as gastrotomy, castration, incision in appendicitis, &c. Care must be taken that the solution be not introduced into a bloodvessel, and the surgeon must be on his guard whenever cocaine is brought in contact with a serous surface. M. Lucas-Championnière deplores the vulgarisation of cocaine, and regards it as a much more dangerous agent than chloroform, seeing that when the latter drug is used the surgeon is present to combat untoward accidents, whereas remote consequences threatening life may follow a cocaine injection.

A New Treatment of Congenital Dislocation of the Hip joint.

The treatment of this condition has hitherto been one of the *opprobria* of the profession. Within the last ten years, however, various operative procedures have been devised with a view of rendering locomotion more feasible; but it must be conceded that the results have been far from satisfactory. That indefatigable worker, Professor Lannelongue, has recently been led to study this disease, and on the 23rd ult. he announced to his colleagues of the Société de Chirurgie the discovery of what he considers to be a rational remedy for this malady. A dozen pathological specimens in the museum of the Hôpital Trousseau show clearly that the displacement is due to the absence or, at best, rudimentary development of a cotyloid cavity, a like absence of a capsule, and a rudimentary femoral head. By resecting the head of the femur the only result obtained is the subsequent shortening of the limb by interfering with the growth of the femur. Nor is the obvious indication to create a new acetabulum fulfilled by detaching a periostic flap. Mindful of the sclerogenic properties of zinc chloride discovered by him, M. Lannelongue has utilised his method as a means of raising a ridge of new bone round the head of the femur, and so preventing its displacement. On Nov. 17th he performed this operation on a little girl, aged three, the subject of this disease. The patient being under the influence of chloroform, and the limb being maintained in extension, twenty drops of a 10 per cent. solution of $Zn\,Cl_2$ were deposited by means of a syringe on the surface of the bone at eight different spots just above the femoral head. A week later a hard osseous ring was clearly perceptible at this situation. A fortnight after the first operation a second injection of the same solution was practised, with the effect of still further accentuating the acetabular ridge. The tiny subject of this interesting experiment was presented at the meeting. The profession will await with curiosity the ultimate result of this novel essay in the field of constructive surgery.

Death of Professor Richet.

A familiar figure has just disappeared from the surgical arena in the person of Dr. Didier Dominique Alfred Richet, honorary professor of the Faculté de Médecine, who died on the last day of the year at his château of Carqueranne, aged seventy-six. Visitors to the wards of the Hôtel-Dieu will easily recall the tall, upright form of him who was for so many years one of the leading surgical lights of this city. Although he never became really reconciled to modern antiseptic methods, he was undoubtedly a man of original ideas, and as the author of a classical work on Medico-chirurgical Anatomy, still much read by French students his name and fame will survive for many a long day. He was a member of the Institute, and an ex-president of the Académie de Médecine, which body suspended its meeting yesterday as a mark of respect to his memory. M. Richet, who was for many years Professor of Clinical Surgery at the Faculty, leaves a distinguished son, M. Charles Richet, also a professor (of physiology) at the Paris Faculty.

Paris, Jan. 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Rohrbeck's Disinfector.

ON the 17th ult. Count Zedlitz, Prussian Minister of Educational, Ecclesiastical, and Medical Affairs, paid a visit to the great Berlin slaughter-house to see a disinfecting apparatus invented by Dr. Hermann Rohrbeck, which has

been in use there for some time past for experiments bearing on the disinfection and utilisation, or, if necessary, destruction, of the flesh of diseased animals. His Excellency was accompanied by Koch's successor, Professor Rubner; Dr. Schönfeld, Privy Adviser on Medical Affairs; Privy Advisers Pistor and Friedheim, &c. Drs. Rohrbeck and Duncker, the latter of whom is the chemist of the Cattle and Meat Inspection Office, explained the apparatus. It differs very materially from other disinfectors, and completely solves the problem of making condemned meat fit for human food, or of converting it, if that is impossible, into manure-powder. Its peculiarity is that it prevents the access of over-heated steam to the objects to be disinfected; and, secondly, by means of a condensing apparatus drives all remnants of air out of them, thus facilitating the penetration of the steam to their inmost parts. This deep and thorough penetration is of extreme importance, for it is just in the inmost parts of pieces of meat, for instance, that it is specially difficult to raise the temperature to a height sufficient to kill bacteria or animal parasites. With Rohrbeck's apparatus this purpose is attained with comparative ease and rapidity, as is proved by pyrometers placed in the inmost parts of pieces of meat by means of larding pins, and electrically connected with bells outside of the apparatus, which they set a-ringing the moment the temperature in the interior of the meat reaches the requisite degree. Maximum thermometers inserted beside the pyrometers show the highest degree of heat attained. The Minister and the gentlemen who accompanied him followed the demonstration with keen interest, and it is probable that this admirable apparatus, which seems to be one of considerable economic as well as sanitary value, will soon be widely introduced.

Venereal Diseases in Berlin.

At a meeting of the German Society for Public Hygiene, held on Dec. 14th, Dr. A. Blaschko spoke on the diffusion of venereal diseases in Berlin, and arrived at the surprising conclusion, based on comprehensive and mostly official statistics, that since 1860—i.e., four years after the abolition of brothels—there has been a considerable and constant decrease in venereal diseases in Berlin, especially in syphilis; but that, notwithstanding this decrease, the diffusion of these diseases among the population of this city is still very extensive, 10 to 12 per cent. of the population being syphilitic. He criticised the regulations of the Sick Fund Act, and proved that they, far from producing the intended "moral" effect, only gave occasion to dangerous delay, concealment, and further dissemination of syphilis. In the further course of his speech Dr. Blaschko advocated the admission of venereal patients to all public hospitals, and declared that the inhumane treatment of such patients reminded one of mediæval prejudices. It was high time, he said, that these patients should be treated, not as sinners, but as patients.

Salophen.

At a recent meeting of the Berlin Medical Society Dr. Paul Guttmann of the Moabit Hospital recommended a new medicament called Salophen. It is a finely crystalline substance, easily soluble in ether and in alcohol, but not soluble in water. It consists of salicylic acid and acetyl-paramidophenol in almost equal parts. Six to eight grammes can be given daily without injury to the patient. In acute articular rheumatism it soon removes the pain and the swelling. Sometimes, however, it fails to produce these effects, and it does not protect against relapses. In chronic articular rheumatism also it may be tried with success. It has a slight antifebrile effect.

Death of Professor Weber of Bonn.

This eminent aural surgeon died on the 30th ult. He was the first to perform the operation of cutting the tendon of the tensor tympani muscle. This operation fell into discredit for some time, but is now performed by Kessel of Jena and Cholewa of Berlin. Another of Weber's contributions to science is his "experimental demonstration of a free communication of the endolymphatic and perilymphatic chambers of the labyrinth of the human ear with extra-labyrinthic intra-cranial cavities." A third is his treatise on the nature and curability of the most frequent form of progressive dulness of hearing. In the monthly periodical for Otiatrics (*Monatsschrift für Ohrenheilkunde*), which was founded by him in conjunction with Voltolini, Gruber, and Rüdinger in 1867, he published many of his clinical observations. He invented an ear microscope which magnifies the tympanic membrane fifteen times and enables the surgeon to see its power of vibration. He resigned his professorship at Jena in 1885 owing to delicate health, and went to live at Wiesbaden, whence he removed to Bonn.

Professor von Rothmund.

Professor Franz Christof von Rothmund, the oldest of the German surgeons, died at the end of last month, aged eighty-nine. Nussbaum was a pupil of his.

The well-known anatomist, Wilhelm Krause, has resigned his professorship at Göttingen, where he has taught for about thirty years.

Dec. 15th, 1891.

Obituary.

PROFESSOR JOHN WOOD, F.R.S., F.R.C.S. ENG.

WE announced in our last issue that this distinguished anatomist and surgeon died on the 29th ult., at his residence in Wimpole-street. For the past three years he had been obliged to give up his public and private professional engagements in consequence of a slow, but progressive, attack of paralysis agitans. He was born at Bradford, in Yorkshire, in 1825, and was the youngest son in a large family. He was educated at a private school (Mr. E. Capon's) in that town, and was then articled to a solicitor. About this time he had a severe fall and injured his hip, resulting in a permanent shortening and deformity. This accident, combined with a distaste for the law, determined him to leave the legal and to study for the medical profession. He was consequently apprenticed to the senior surgeon of the Bradford Infirmary, and studied there, until in October, 1846, at the age of twenty-one, he entered the medical department of King's College. His studentship was marked by an extraordinary and rapid success, for he obtained the Junior, Second Year, and Senior Scholarships in successive years, in addition to the Warneford prize and some class prizes and certificates of honour. In 1848 he passed the First M.B. Examination at the University of London, obtaining the second place in honours in Anatomy and Physiology, and was awarded the gold medal—the scholarship being won by Dr. J. S. Bristowe; he was also placed in honours in Organic Chemistry and in Materia Medica, but he did not further pursue a University career. He became a member of the Royal College of Surgeons and a Licentiate of the Apothecaries' Society in 1849, and in 1850 was appointed house surgeon to King's College Hospital. In the following year John Wood and his friend and contemporary Hyde Salter were selected to fill the valuable posts of demonstrators of anatomy in King's College under Professor Partridge, in succession to William Brinton and Henry Lee. Salter soon gave up the teaching of anatomy, but Wood practically lived in the dissecting-room until 1870, when he followed Sir William Fergusson in the chair of surgery. It was during this period that Mr. Wood made a world-wide reputation by his dissections to elucidate the anatomy of hernia, with a view to its radical cure; by his monograph on the Pelvis, in Todd's Cyclopædia of Anatomy and Physiology, which is one of the ablest articles in that most excellent dictionary, followed by an ingeniously reasoned theory on the cause of Obliquely Ovate Pelvis, at the Pathological Society in 1856; and by his elaborate papers on Muscular Abnormalities, which he read year after year before the Royal Society from 1864 to 1868. The amount of labour involved in the preparation of these papers will be shown by a single quotation: "The total number of abnormalities in the 102 subjects is 981, of which 623 are in the 68 males and 358 in the 34 females. The number found on both sides is 623, of which 414 are in the males and 209 in the females. The number found on the right side only is 176, of which 108 are in the males and 68 in the females. The number found on the left side only is 182, of which 101 are in the males and 81 in the females, making a total of 358 one-sided specimens." In 1870 his more remarkable contribution to abnormal myology, on the "Muscles of the Neck and Shoulder," was published in the Philosophical Transactions, and the close analogy between some of these variations and the regular muscles of the lower animals was emphasised by the numerous dissections made on all kinds of vertebrates by Mr. Wood during a long series of years. He was soon after-

wards elected a Fellow of the Royal Society, and his observations were referred to by Mr. Darwin in his argument on the descent of man. His knowledge of topographical anatomy is well shown in a paper in the first number of the *Journal of Anatomy and Physiology*, in which he corrected some erroneous opinions on the position of the heart and large vessels then current in the text-books. During the earlier part of this time Mr. Wood was teaching anatomy to private pupils as well as publicly, and nobody could excel him in the steady, careful, and painstaking manner in which he discharged his duties; and in addition to this conscientiousness, every real student was struck by his brilliancy of exposition, his skill in draughtsmanship, and his knowledge of details. Mr. Wood learnt his anatomy from the subject and always taught it on the subject, and frequently—for he was a rapid as well as an able dissector—made the necessary dissections himself for his demonstrations. No one who worked in the dissecting-room of King's College under Mr. Wood could fail to be infused with some of his earnestness. This extended anatomical work mainly led to his success as a surgeon. In 1856 he was elected assistant surgeon to King's College Hospital, in 1870 he became full surgeon, and in 1889, when his health began to fail, he was appointed one of the consulting surgeons, whilst for many years past he had been a member of the committee. He never occupied the chair of anatomy in King's College, for Professor Partridge was still alive when, on the resignation of Sir Wm. Fergusson, the vacant professorship of surgery was offered to Mr. Wood in 1871. His lectures on systematic surgery were models of well-arranged detail and clear exposition, and it was a matter of much regret among his pupils that he should have preferred a joint professorship of clinical surgery with Sir Joseph Lister in 1877 to continuing the systematic teaching for which he was so specially adapted. In 1870 he was elected an honorary Fellow of King's College, and in 1889 Emeritus Professor of Clinical Surgery, after thirty-eight years of assiduous, almost daily, work and teaching at King's College and King's College Hospital. Mr. Wood's most important contribution to practical surgery was the introduction of a special method for the radical cure of hernia—inguinal, crural, and umbilical—for which he obtained the Jacksonian prize essay in 1861, and which he afterwards published in an enlarged form in 1863. This operation was entirely based on his own dissections, and no abler and more precise account of the parts concerned can be found even in our most modern anatomical works. He gained a most extensive reputation through his success in devising and performing this operation—a success so great that boys who had been refused by the naval authorities were afterwards accepted on having had this radical cure performed on them by Mr. Wood. No one can at the present day deal with the subject of hernia without having to estimate the value of Wood's operation, and the departures from it are only modifications which are the natural outcome of the antiseptic methods of treatment now in general use. In the Hunterian Lectures at the Royal College of Surgeons in 1885 Professor Wood referred to the great success which attended the operation, not only in his own practice, but in that of many of his pupils. Professor Wood also devised and performed a new operation for relieving extroversion of the bladder with epispadias, and it was in such cases as these that his ingenuity in planning, his precision in making the incisions, and his skill in dissecting the flaps were so conspicuous. In plastic surgery he was a master, but he performed the ordinary operations of every-day surgery with rare calmness and dexterity. He always described fully the steps of every operation he performed, and his terse and clear exposition, his striking diagrams, and his mastery of anatomical detail gave every visitor to the operating theatre of King's College Hospital an unusual surgical experience. He strongly urged the use of antiseptic dressings in surgery. He largely contributed to Druitt's "Surgical Vade Mecum," especially to the edition of 1878. He became a Fellow of the Royal College of Surgeons by examination in 1854, was elected a member of the Council and of the Court of Examiners in 1879, Hunterian Professor in 1884, and vice president in 1885. He filled at various times the offices of Examiner in Anatomy and afterwards in Surgery at the University of London, and in Surgery at the University of Cambridge, and the Royal Colleges of Physicians and Surgeons of England. He had been the President of the Metropolitan Counties Branch of the British Medical Association, Vice-President of the Medico-Chirurgical and Pathological Societies, and was an Hon. Fellow of the Swedish Medical Society.

He was buried at Kensal Green Cemetery on the 4th inst., Mr. Jonathan Hutchinson representing the Royal College of Surgeons, Mr. F. G. Hallett representing the Conjoint Examining Board in England. Professors Christopher Heath, Henry Smith, Bentley, and many of his former colleagues and pupils were present.

WM. BARR BROWN, M.R.C.S., L.S.A.

THE death on Christmas Day of Mr. Barr Brown at the age of eighty-five removes from among us one of the finest examples of a class of practitioner now fast dying out. To those of his friends who have been in touch with his sufferings of the last two years his death will be more a relief than a surprise. His father was a gentleman farmer in Lincolnshire, and he himself was educated at St. Bartholomew's Hospital. In 1832 he went to Ascot, where for nearly sixty years he was actively engaged in practice. Originally a Court suburb to Windsor, it has since grown into a large residential neighbourhood. So complete was his hold on this important and extensive district that to the time he relinquished practice no one ever attempted to dispute his supremacy. It would be difficult to find a man who, over so great a space of time, obtained and retained such complete confidence, respect, and affection amongst all classes as he did alike in his home, among his patients, neighbours, or brother medical men. Though by nature and education of simple tastes and of rare singleness of mind, the great confidence extended to him by a large *clientèle*, mostly of the upper ranks in society, gave him a very extended knowledge of human nature. This, coupled with an intelligence of no mean order and an honest endeavour to be in touch with all that was practical and sound in his profession, made him prominent as a skilful practitioner, and his independence of thought and action, tempered by his kindliness of disposition and devotion to duty towards both rich and poor alike, will ever mark him as a Christian gentleman. In his earlier days he was a keen sportsman and lover of Nature, and few men fitted a horse better across country, whether riding to hounds or as a short cut to his patient's bedside. As evidence of the appreciation of his qualities and character, when about twelve years ago a desire was evinced on the part of his friends and patients to offer some expression of their sympathy and regard at a time of sore domestic bereavement, it was accompanied by a purse of nearly £1500, and this within a fortnight of the suggestion being made. It is doubtful if ever a more substantial testimonial was received by a general practitioner. Those who have had the privilege of being associated with him in his practice, and the advantage of his example as a guide, will ever hold his name in affectionate remembrance.

JAMES H. WHARTON, M.B. T.C.D., F.R.C.S.I.,

OF DUBLIN.

WE record with regret the death of an eminent Dublin practitioner, which occurred last week at his residence, 28, Upper Merrion-street, at the age of seventy-six. Mr. Wharton had been in failing health for many months past, and had resigned some appointments, but the immediate cause of his death was bronchitis. He graduated in arts in Dublin University in 1837, and in 1868 obtained the degrees of Master of Arts and Bachelor of Medicine, while in 1845 he obtained the Fellowship of the Royal College of Surgeons in Ireland. He acted for many years as a member of council of the College of Surgeons, and was elected president for the year 1871–2. For many years he was associated with the Ledwich School of Medicine, and in 1846 was elected lecturer on materia medica, and in 1858 lecturer on surgery, which post he held until 1880, when he retired. In 1858 he succeeded the late Mr. Thomas Ledwich as surgeon to the Meath Hospital, which appointment he resigned a couple of years since. Mr. Wharton was surgeon to the Royal Hospital for Incurables, to Bloomfield Retreat, Pleasants' Asylum, and a visitor in Lunacy under the Court of Chancery. He was also surgeon to the Cork-street Fever Hospital, and for some time an examiner in surgery in the University of Dublin and the Queen's University in Ireland. Mr. Wharton married a daughter of the late Sir William Brady.

Medical News.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—Dr. J. H. Skeen, Assistant Medical Officer, Stirling District Asylum, passed the examination on Psychological Medicine held in Aberdeen in December.

LIFE ASSURANCE MEDICAL APPOINTMENTS.—Dr. Arthur T. Davies and Dr. Francis G. Penrose have been appointed medical officers of the Westminster and General Life Assurance Association.

TYPHOID FEVER IN ATHENS.—A serious epidemic of typhoid fever has broken out in Athens, traceable, it is said, to the stoppage of drains, consequent on the construction of the railway tunnel now being run under the lower part of the city.

PRESENTATION TO THE LORD MAYOR.—On the 1st instant the Master (Dr. W. Sedgwick Saunders), the Wardens, and the Court of the Borderers' Livery Company, waited upon the Lord Mayor at the Mansion House, and presented him, as a member of their body, with an address of congratulation on his attaining the dignity of chief magistrate of the city of London. The address, illuminated, was deposited in an oblong silver casket, of the Queen Anne period, bearing a suitable inscription. His Lordship acknowledged the presentation in a few appropriate remarks.

SANITARY INSPECTORS' ASSOCIATION.—The New Year's address to the members of this body was given by Dr. B. W. Richardson, who congratulated them on the position they had attained in the estimation of the public, and on the fact that the Board of Trade had permitted the society to be enrolled as one limited by guarantee, which was equivalent to incorporation. He advised the formation of a school in connexion with the society, in which physiology, natural history, the principles of hygiene &c., might be taught, and concluded by referring to the present improved condition of the public health in the aggregate as compared with that of former generations.

GLOUCESTER INFIRMARY.—At the quarterly meeting of the governors, held on the 31st ult., Mr. A. M. Sydney-Turner resigned his position on the medical staff owing to ill-health. His resignation was accepted, and his valuable services to the institution for thirteen years appreciatingly recognised. Mr. J. D. Birchall passed a high encomium on the chairman of the governors, Dr. Ancrum, stating that he had had Dr. Ancrum's portrait painted by the Hon. J. Collier for presentation to the infirmary. The portrait, a half length one, and an admirable likeness, was then unveiled. On behalf of the institution the portrait was accepted by the officials connected with the infirmary, and by the mayor of the city for the citizens.

THE YELLOW FEVER IN BRAZIL.—The *La Plata*, which arrived at Southampton on the 3rd inst., reports that the yellow fever attacked the chief steward, and also one of the firemen. Both had been buried at sea. Four other members of the crew were sufferers and one passenger, but they were put ashore, and were being treated in hospital. The *La Plata* also brought home a number of English sailors who had been left behind by their vessels through attacks of the fever, and who had been sent home by the English Consul. Reports from Santos give serious accounts of the ravages made by the fever, and the situation is becoming all the more acute because of the crowds of destitute emigrants who are flocking into the port, begging to be sent home.

PRESENTATIONS.—Mr. Richards, on recently resigning his appointment of medical superintendent of the female department of the Hanwell Asylum, after twenty-three years' service, was presented by the nurses with a valuable dressing-bag as a token of the esteem in which he was held by the donors. He was also the recipient of tangible proofs of regard from his brother officers.—Dr. Edward Bland of Sandiacre, Derby, has been presented by the inhabitants of the town and district, in testimony of their high esteem and respect, after practising there for the past forty years, with a handsome brougham, a set of silver-mounted harness, a coachman's livery, a portrait of himself, painted by Mr. Warsop of Nottingham, and a beautifully illuminated address

WELLINGTON COLLEGE.—In connexion with the question of the sanitary condition of this College a meeting of parents and guardians is announced to be held at noon to-day (Friday) in the theatre of the Royal United Service Institution, Whitehall-yard, S.W.

FOOTBALL CASUALTIES.—On Saturday, at Leicester, whilst playing in a match between the London-road Mission and St. John's (Leicester) Club, a youth fractured his leg below the knee and was taken to the Infirmary.—In a Newton Heath and Canadians match a player fractured his leg and was removed to the Royal Infirmary.

DR. E. BOTTINI, whose elevation to the Italian Senate we lately announced, and whose paper on "The Surgical Cure of Cavernous Angioma of the Cheek" (THE LANCET, Sept. 20th, 1890), must be fresh in the remembrance of our readers, lies dangerously ill of influenza at Milan. Drs. Rezzonico, Ferrara, Simonetta, and Gatti have met in frequent consultation, and their latest bulletin was such as to cause the gravest anxiety.

DEVONSHIRE HOSPITAL AND BUXTON BATH CHARITY.—The medical statistics of the 2351 in-patients for the year 1891 are as follows: Diseases of the locomotory system, 1936; morbus coxæ, 4; diseases of the nervous system, 306; diseases of the hæmopoietic system, 40; diseases of the circulatory system, 1; diseases of the respiratory system, 31; diseases of the alimentary system, 10; diseases of the urinary system, 5; diseases of the integumentary system, 18.

THE LATE MR. CONWAY, TIPPERARY.—Mr. Daniel Conway, L.S., L.M. Dub., medical officer of the Tipperary Dispensary, died of pneumonia on the 25th ult., contracted in discharge of his medical duties. On the previous Sunday he visited a patient at Solohedby, where it is believed he contracted the disease. On the following Tuesday night he left his sick bed to attend the same patient, and on Wednesday doctors were called in to attend him, but their efforts were unavailing, and he died early on Christmas Day. He was slightly over twenty-eight years of age.

ROYAL HANTS INFIRMARY.—A specially convened meeting of the governors was held on the 23rd ult., the object being to rescind Rule 58, which had lately been agreed to, the effect of which was, that the five members who had attended the fewest number of meetings of the Committee of Management shall retire annually, and not be eligible for re-election for one year. Some demur had been expressed to this alteration, and the Committee of Management now brought forward an amended proposal, that the five senior members shall retire annually, but shall be eligible for re-election. Considerable discussion ensued, and the committee's recommendation was adopted, adding a rider that the five retiring members should be put up *seriatim* to the vote of the governors instead of *en bloc*, which was formerly the case.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BISDÉE, A. J., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Ware Union.

BOOTH, FRED., M.B., C.M. Aberd., has been reappointed Medical Officer of Health for St. Anne's-on-the-Sea.

BRADEN, J. H., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Lewis.

BREMNER, JAS., M.B., C.M. Aberd., has been appointed a District Medical Officer of the Strand Union.

BROGDEN, J. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Castell Caerdydd Lodge of the Manchester Unity of Oddfellows.

BROWN, F. L. H., M.B., C.M. Edin., has been appointed Medical Officer for the No. 1 Sanitary District of the Coventry Union.

BUTTERFIELD, HARRIS, M.R.C.S., has been appointed Medical Officer of Health for the Cranbrook Union.

CLARKSON, H. G. H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Southern Sanitary District of the Pateley-bridge Union.

EVANS, R. W., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Borough of Wrexham.

FELCE, STAMFORD G., B.A., M.B., B.C. Cantab., has been appointed Assistant Medical Superintendent to the St. Saviour's Union Infirmary, East Dulwich, vice T. Fisher, M.D.

GIBBONS, H., M.B., C.M. Aberd., has been appointed Medical Officer of Health to the Desborough Local Board.

GREEN, C. D., M.D. Lond., L.R.C.P., M.R.C.S., D.P.H., has been reappointed Medical Officer of Health to the Edmonton Local Board.

HARRISON, JOHN, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Braintree Sanitary District of the Braintree Union.

HENRY, JOHN P., M.D., B.Ch. Dub., L. & M.R.C.P. Irel., has been appointed Medical Officer to the Blackheath-hill and Cold Bath Districts of the Miller Hospital and Royal Kent Dispensary.

JONES, FELIX F., M.R.C.S., has been reappointed Medical Officer of Health for the Llanfyllin Rural Sanitary District.

JOYNES, F. J., M.R.C.S., has been reappointed Medical Officer of Health for the Dursley Rural Sanitary District.

KIRTON, C. STANLEY, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Vaccination Officer for Leigh, Essex.

LAWRENCE, ALFRED, M.R.C.S., L.R.C.P., L.M., has been appointed Surgeon to the Fever Hospital, East London, Cape of Good Hope.

NAYLOR, W. R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Middleham Sanitary District of the Leyburn Union.

POLSON, WM., M.B., C.M. Edin., has been appointed Medical Officer for the Felton Sanitary District of the Alnwick Union.

RIDDALL, J., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Ayr Burgh, vice Dobbie, deceased.

RIDLEY, WALTER, M.B., M.S. Durh., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Hospital for Sick Children, Newcastle-on-Tyne.

RODERICK, SYDNEY JAS., M.B., C.M. Edin., has been appointed Medical Officer of Health for Llanelly.

ROWELL, GEORGE, F.R.C.S., has been appointed Assistant Anæsthetist to the Dental Hospital of London.

SMITH, HENRY, M.B., B.S. Durh., has been reappointed Medical Officer of Health for the Brandon and Byshottles Urban Sanitary Districts.

SOMERVILLE, J. W., M.B., C.M. Edin., has been appointed Medical Officer of Health for Galashiels.

STEPHEN, J. S., M.B., C.M. Edin., has been appointed Medical Officer for the Morland Sanitary District of the West Ward Union.

STONHAM, H. A., M.R.C.S., L.R.C.P., has been appointed Resident Obstetric Assistant Physician to the Westminster Hospital.

SWIFT, T. C., M.R.C.S., has been appointed Medical Officer to the Foundling Hospital, vice H. W. Statham, resigned.

TA'BOIS, FRED. W., L.D.S. Eng., has been appointed Dental House Surgeon to Guy's Hospital.

TURNER, J. A., M.B., C.M. Edin., D.P.H. Camb., has been reappointed Medical Officer of Health for Melton Mowbray.

VIDLER, A. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Workhouse and No. 1 Sanitary District of the Rye Union.

WARD, J. A., M.R.C.S., has been appointed Assistant Medical Officer to the Infirmary of the Parish of St. Luke, Chelsea, vice Lift, resigned.

WILLIAMS, E., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Mold Rural and Urban Sanitary Districts of the Holywell Union.

WRIGHT, J. H., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Borough of Kelso.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Resident House Surgeon. Salary £60, with board and washing.

BOURNEMOUTH FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Assistant Medical Officer. Commencing salary £100. (Apply to Mr, Honersell, 50, Old Christchurch-road, Bournemouth.)

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Clinical Assistantship.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Medical Officer. Salary £100 per annum, with board &c. (Apply to the Secretary, at the Office, 24, Finsbury-circus, E.C.)

DENTAL HOSPITAL OF LONDON.—MEDICAL SCHOOL.—Medical Tutor. Salary £40 per year.

FOLKESTONE FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Medical Practitioner. Salary £200 per annum, with an additional fee for midwifery cases. (Apply to the Secretary, 47, St. Michael's-street, Folkestone.)

GENERAL INFIRMARY, Northampton.—House Surgeon. Salary £125 per annum, with furnished apartments, board, attendance, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon for one year. Salary £50 per annum, with board and residence in the Hospital.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon.

METROPOLITAN ASYLUMS BOARD.—Second Assistant Medical Officer to the Leavesden Asylum for Imbeciles, near Watford, Herts. Salary £120 per annum, rising £10 annually to £150, with board, furnished apartments, and washing. (Apply to the Clerk, Offices, Norfolk House, Norfolk-street, Strand, W.C.)

MIDDLESEX HOSPITAL, W.—Medical Registrar.

QUEEN'S COLLEGE, Belfast.—Lecturer on Pathology.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon. Board and rooms provided.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Board, residence, and washing provided.

ST. GEORGE'S HOSPITAL, W.—Lecturer on Aural Surgery.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Surgeon to the In-patients. Honorarium £50 per annum, and board and lodging in the hospital provided.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Physician to the In-patients. Honorarium £50 per annum, with board and lodging in the hospital.

Births, Marriages, and Deaths.

BIRTHS.

BATTISCOMBE.—On Dec. 25th, at Sandlings, St. Mary Cray, Kent, the wife of C. G. Battiscombe, M.B., C.M., of a daughter.

CLARKE.—On Jan. 3rd, at Estcourt-road, Fulham, the wife of William F. Clarke, M.D., B.S. Lond., of a daughter.

KIDD.—On Jan. 1st, at Merrion-square, Dublin, the wife of George H. Kidd, M.D., President of the Royal Academy of Medicine in Ireland, of a daughter.

PESKETT.—On Dec. 31st, at Oakover, Burnham, Somerset, the wife of A. W. Chalmers Peskett, M.A., M.B., B.C. Cantab., of a daughter.

RABAGLIATI.—On Jan. 1st, at Walmer-villas, Bradford, the wife of Andrea Rabagliati, M.D., of a son.

ROWLEY.—On Nov. 26th, 1891, at Te-Awamutu, Auckland, New Zealand, the wife of Charles Rowley, M.R.C.S. Eng., of a son.

SEQUEIRA.—On Jan. 4th, at Arlington-villas, Fairlop-road, Leytonstone, the wife of G. W. Sequeira, M.R.C.S., L.S.A., of a daughter.

MARRIAGES.

DAKIN—LEWIS.—On Jan. 2nd, at St. Cuthbert's, South Kensington, William Radford Dakin, M.D., of Welbeck-street, W., son of the late John Dakin, of Congleton, Cheshire, to Sylvia Concanen, elder daughter of Francis Theodore Lewis, Nevern-square, S.W.

EARLE—ISAACS.—On Nov. 18th, at St. Alban's Church, Santa Cruz Mts., Jamaica, Edward Robert Charles Earle, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., eldest son of Edward Muirhead Earle, Esq., of Jamaica, to Lydia Isabel, second daughter of Charles Earle Isaacs, Esq., of Mount Olivet, Santa Cruz Mts., Jamaica.

GRIFFITHS—WATERS.—On Dec. 31st, at Llangammarch Parish Church, by the Rev. T. Williams, uncle of the bridegroom, assisted by the Rev. W. Williams, Vicar, John Griffiths, surgeon, Oswestry, to Caroline Sarah Winston Waters, youngest daughter of the late Dr. Waters, Waverley Lodge, Jersey.

DEATHS.

ALLAN.—On Jan. 2nd, at St. Leonards-on-Sea, James Allan, F.R.C.S., Surgeon-Major (Retired) Indian Army, aged 63.

BOWES.—On Jan. 1st, at Richmond, Yorkshire, Richard Bowes, M.R.C.S., aged 82.

BRADLEY.—On Jan. 2nd, at Brunswick-place, Brighton, Charles Lawrence Bradley, F.R.C.S., F.L.S., aged 73.

CHRISTIE.—On Jan. 2nd, at Hillhead, Glasgow, James Christie, M.D., F.F.P.S. Glasg., aged 36.

COGSWELL.—On Jan. 2nd, at York-terrace, Regent's-park, Charles Cogswell, M.D., aged 78.

DICKINSON.—On Dec. 31st, at Brook House, Uffculme, Devon, William Wood Dickinson, M.R.C.S. Eng., and L.S.A. Lond., aged 52.

GREENE.—On Dec. 30th, at St. Leonard's-terrace, Chelsea, Edward Campbell Greene, B.A. Oxon., M.R.C.S., L.R.C.P.

RUDDERFORTH.—On New Year's morning, suddenly, at Lyndhurst, Hampton-hill, Dr. E. H. Rudderforth, aged 78.

PRATT.—On Jan. 2nd, at the Willows, Wolverhampton, George Arthur Pratt, M.R.C.S., L.R.C.P., aged 29.

RUSSELL.—On Jan. 1st, at Thurles, Co. Tipperary, John Russell, L.R.C.P. Irel., L.M., M.R.C.S., aged 77.

WYNTER.—On Dec. 26th, at his residence, Winslow, Bucks, John St. Thomas Wynter, M.R.C.S., aged 83.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on January 5th, 1892.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	219	52	..	46	2	319	442
North-Western Hospital	268	35	..	15	1	319	413
Western ,,	96	17	..	21	1	135	224
South-Western ,,	209	43	..	26	2	280	340
South-Eastern ,,	202	21	4	80	1	308	454
Northern ,,	424	29	..	22	...	475	480
Totals	1418	197	4	210	7	1836	2353

SMALL-POX.—*Atlas* hospital ship, 3.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stevard's Instruments.)

THE LANCET Office, Jan. 7th, 1892

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Jan. 1	29·82	S.W.	40	38	77	45	39	·07	Bright
,, 2	30·24	N.W.	36	35	53	45	34	,,	Hazy
,, 3	30·09	W.	44	42	49	45	35	,,	Cloudy
,, 4	30·05	N.W.	32	..	50	37	31	,,	Overcast
,, 5	29·99	W.	29	..	..	43	27	..	Hazy
,, 6	29·39	W.	43	41	..	43	29	..	Cloudy
,, 7	29·42	N.W.	32	..	55	37	31	·11	Fine

Medical Diary for the ensuing Week.

Monday, January 11.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-sq., W.C.).—8 P.M. Mr. Christopher Heath: Epithelioma of the Jaws. Casual Communications The President's Valedictory Address.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. T. Churton (Leeds): Remarks on a case of Cerebral Hæmorrhage, with Demonstration of Brain.—Mr. Bruce Clarke: The Radical Cure of Prostatic Obstruction by the Galvano-cautery.—Dr. Frank J. Wethered: The Diagnostic and Prognostic Value of Tubercle Bacilli in the Sputum.

Tuesday, January 12.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
SOCIETY OF ARTS.—4.30 P.M. Mr. Ernest Satow: The Laos States of Upper Siam.
ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.—8.30 P.M. Mrs. French-Sheldon: Customs among the Natives of East Africa from Teita to Kilimegalia, with special reference to their Women and Children (illustrated by optical lantern).
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Dr. John Phillips: On Tetanus as a Complication of Ovariotomy.—Mr. Henry J. Tylden: A Critique on Recent Researches in Diabetes Mellitus, with an Original Note on the Pathology of the Pancreas.

Wednesday, January 13.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSTITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
SOCIETY OF ARTS.—7 P.M. Professor John M. Thomson: Three States of Matter—Solid, Liquid, and Gaseous. (Juvenile Lecture.)
HUNTERIAN SOCIETY.—8.30 P.M. Dr. Patrick Manson: On a Method of Operating in Abscess of the Liver.—Mr. F. R. Humphreys: On a case of severe Renal Hæmorrhage after Parturition, with Phlegmasia Dolens later on.

Thursday, January 14.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Annual Meeting.
NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Dr. Louis Jones: Electricity as an Aid to Medical and Surgical Diagnosis and Treatment.

Friday, January 15.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, January 16.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department 9.15 A.M.

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.
All communications relating to the editorial business of the journal must be addressed "To the Editors."
Lectures, original articles, and reports should be written on one side only of the paper.
Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.
We cannot prescribe or recommend practitioners.
Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."
Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*
We cannot undertake to return MSS. not used.

FEES UNDER THE NOTIFICATION ACT.

C. W. J.—Our correspondent is entitled to, and can compel payment of, notification fees in *all cases* of the diseases specified under the Act—namely, small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names: typhus, typhoid, enteric, relapsing, continued, or puerperal fever. Of course we infer that the Act has been adopted by the particular district. The poverty or wealth of the patients has nothing to do with the liability of the authority The notification is in the *public* interest, and the public must pay.

Dr. J. Herbert Stowers.—We quite agree with our correspondent that the method of distributing such cards is wrong and to be deprecated, and that it has an undesirable tendency to divert assistance from more desirable institutions. No doubt at the proper time the Hospital Sunday and Saturday Funds will take due note of it.

Dr. Bronner (Bradford).—The paper will appear in an early number.

THE CLIMATE OF JAVA.

To the Editors of THE LANCET.

SIRS,—In the current number of THE LANCET "Viator" asks for information concerning the climate of Java, and asks whether a stay of a few weeks would be injurious to health. From my experience of Java I should say that a visit of such short duration could not possibly injure anyone. The climate is delightful in many respects, and fairly even all the year round as regards the heat. Like most Eastern countries, it has its hill-station, which is fortunately quite close to Batavia, a few hours' run only, where there is a very comfortable hotel. Batavia is a lovely eastern city, rich in tropical foliage, as is the entire island. Samarang and Surrabaya are lovely places, luxuriant in tropical foliage and palms, but very malarious from their low-lying situations. The visitor is all right in Batavia at the Hôtel de Nederlands, where I stayed; and if it is too hot, he may run up the hill—a kind of Javanese Simla. I have travelled all through the East (India, &c.) and Far East (China, Japan, &c.), but saw nothing so beautiful in the way of true tropical scenery as is found in the Malacca Straits and Java—the home of the mangostan, the fruit of all fruits, not obtainable anywhere else, either by natural growth or importation.

I am, Sirs, yours truly,
Albion-road, N.W., Jan. 2nd, 1892. W. SHEPPERSON, F.R.G.S.

SIR W. J. MOORE'S PAPER ON "FAMINE AND DISEASE."

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will kindly allow me to correct a mistake which occurs in the report of my paper on "Famine and Disease" (THE LANCET, Jan. 2nd). Your report reads as follows:—"From the principality of Malwa alone [which should have been *Marwar*] it is estimated that one million of people emigrated, taking with them one and a half million of cattle. The anti-opiumists had said that the extending cultivation of opium in Malwa had caused the famine in the neighbouring province of Rajpootana; but the fact was that tens of thousands of human beings, and more cattle, found food in the opium-growing state of Malwa." Marwar is the largest and most westerly State of Rajpootana. Then towards the east are the Aravelli range of mountains, separating Marwar from Meywar. Still more easterly is Malwa. The similarity of these names often causes printers' errors; and the substitution of Malwa for Marwar in your report alters what I wished to say, the latter part of the "extract" contradicting the first part.

I am, Sirs, yours faithfully,
London, Jan. 5th, 1892. W. J. MOORE, Surgeon-General.

DISTRIBUTION OF TRACTS IN HOSPITALS.

THE *Philanthropist* for January gives insertion to communications from writers who draw attention to the annoyance caused to some hospital patients by the persistent efforts of well-meaning persons to pester them with tracts and unasked-for religious counsel and admonition. On the whole, we agree with the writers, that such attempts to administer spiritual aid should be seasoned with discretion, and should be made for the most part subject to the request of the sufferer.

Inquirens.—The questions are purely legal, and can only be answered by a solicitor with the document and all the facts before him. Probably, as the matter is involved, the solicitor would have to consult counsel.

Mr. J. R. Catling.—We have no record of the death of the gentleman named.

VULCANITE DENTURES.

To the Editors of THE LANCET.

SIRS,—In the current number of THE LANCET a short article appears pointing out that in some mouths vulcanite is intolerable, though it does not insist upon the theory that it is owing to the oxide of mercury set free that this irritation is set up I well remember when with Mr. Cattlin in London that we had to make a set of teeth for a lady, when the absorption of the alveolar processes was so great that vulcanite was clearly indicated. These teeth were so uncomfortable that they were eased and eased out of all fit, and no less than six sets were made, with like result. Finally, I carved one out of hippopotamus ivory, fitting in teeth in the old-fashioned way, and this set she was able to wear, but during the last twelve months I have had two cases of intolerance of vulcanite, and in both have got over the difficulty by making gold plates. The vulcanite, being a non-conductor, prevents the natural heat of the palate—and in one case the lower jaw also—from diffusing, making the mouth disagreeably hot and sore, which metal plates have instantly relieved. Probably the first case might have been successfully treated in a similar manner. Vulcanite is so very useful in many cases, and especially as a cheaper base for artificial teeth, that it is just possible many might be afraid of failure with vulcanite, and, not being able to afford gold, might deny themselves these important aids to digestion. It is, perhaps, kind to let them know that these cases are extremely rare.

I am, Sirs, yours truly,

Nottingham, January, 1892. HENRY BLANDY, L.D.S. Edin.

Pathan.—1. The most remarkable essay on "Saline Injections in Cholera" is in Dr. John Mackintosh's "Principles of Pathology and Practice of Physic," pp. 335–371, published in 1836. In the Drummond Hospital, Edinburgh, Dr. Mackintosh treated 156 patients in extreme collapse with saline injection into the veins, using first the saline solution suggested by Stevens (an author—on the blood—of great repute in his day), and afterwards a more successful modification of that solution made as follows:—Chloride of sodium, one ounce; bicarbonate of soda, eight scruples; water, ten pounds. Before injecting the solution the fluid was heated to 106° F., and in extreme cases to 120°. The results were as striking as those in the case recorded by Dr. Richardson, to whose recent paper in THE LANCET our correspondent refers. Twenty-five of Dr. Mackintosh's patients recovered, under this treatment, from what seemed "the very verge of the grave." He took half an hour to inject the ten pounds of liquid. 2. Dr. Richardson's "automatic syringe," manufactured by Krohne and Sesemann, of Duke-street, Manchester-square, is the latest improvement in syringes for the purpose named by our correspondent.

Mr. Chas. Gayford must pass the examinations for the double diploma. Information concerning those examinations will be found in our Students' Number published in September last.

"A SUGGESTION FOR CHRISTMAS."

To the Editors of THE LANCET.

SIRS,—I have only just noticed a letter in THE LANCET of Dec. 19th, headed as above, appealing to members of the profession at home to give surplus instruments and books for the use of medical missionaries abroad. The calls upon the different missionary societies are so heavy that they are not often able to give their medical missionaries a full outfit of instruments, and often cases have to be sent away from the hospitals for lack of the necessary knife or forceps. Plenty of good work is done at these mission hospitals, as your columns from time to time testify. Only last week I heard from one missionary who had performed twenty-seven cataract operations in one week. The Church Missionary Society are very anxious that their medical missionaries should have all that is needful for their work, and I should be very glad to receive on their behalf any gifts in the shape of money, instruments, drugs, appliances, or books which any of your medical brethren may be able to send. Parcels should be sent to me at the Church Missionary House, Salisbury-square, E.C., or I would arrange for their collection in town.

I am, Sirs, yours truly,

HERBERT LANKESTER, M.D.,

Hon. Sec. C.M.S. Med. Mission Auxiliary Committee.

Salisbury-square, Jan. 6th, 1892.

ICE ACCIDENTS.—A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—Each winter furnishes its quota of deaths from accidents on the ice, when many lives are lost through the needful appliances (ropes, planks, ladders, &c.) not being close at hand or obtainable in time to be of any service. My attention has been drawn to the matter by the accident at St. Helens on Dec. 29th, when the ice suddenly gave way, immersing two of the skaters. Their friends quickly attempted to rescue them, when the ice again collapsed, and six more were immersed. By the aid of ropes and planks all were rescued, though one for a time remained unconscious. My suggestion is that each skater wear a strong rope or cord, of four or five yards in length, either as a girdle around the body or as a sash over one shoulder, on which it may be fixed by a loop and button. Such a cord might be made of similar material to the worsted cord of a dressing-gown, with tassels over a cork float attached to the ends, and of various colours, to harmonise with the dress of the wearer. The skater would not find it any impediment to free action. It would be ornamental as well as useful. Two or more of such cords could be quickly tied together by a reef-knot, and the tasselled end either thrown to those struggling in the water, or tied around the body of anyone attempting the rescue, or might be quickly fastened to the end of a ladder or plank, which should always be at hand where numbers congregate to enjoy the exhilarating pastime of skating. Thus such ready, prompt, and efficient aid could be rendered by ambulance pupils and others as would save many a valuable life.

I am, Sirs, yours faithfully,

Mytholmroyd, Jan. 5th, 1892. JOHN H. THOMPSON, L.R.C.P.Ed., &c.

A. E. M.—We believe an institution of the kind exists in New Ormond-street, W.C. It is named the Home for Infirm and Invalid Women, and the terms are very moderate.

A. W. H.—Our correspondent had better consult a solicitor. Any claim he might be advised to make would have to be adjudicated on in the County Court.

Nurse.—We are not aware of any such case having been recorded.

GUINEA-WORM IN SCROTAL CYST.

To the Editors of THE LANCET.

SIRS,—As a sequel to the presence of round worms in a cyst, quoted in your issue of Dec. 26th, 1891, on the authority of an Italian contemporary, I should like to mention the following facts.

Whilst Acting Colonial Surgeon in the Colony of the Gambia, West Africa, my attention was drawn to a convict in the gaol, who had a fluid swelling in the neighbourhood of the left testicle. As the skin over it was thinning, I incised it. The contents proved to be a quantity of watery pus, with much flocculent débris suspended in it, and twenty-two inches of a guinea-worm (*Filaria medinensis*). The patient made a rapid and complete recovery, the cavity closing by granulation. As is generally the case with African natives, no history could be obtained. During 1888, 1889, and 1890 I saw but a few instances of this parasite; but those were sufficient to show me that the natives well understood the method of rolling it over a small piece of stick, with a view to its gradual extraction. I never saw the point of emergence higher than the umbilicus.

I am, Sirs, yours faithfully,

Devonshire Club, S.W., Jan. 5th, 1892. PERCY RENDALL, M.D.

A Surgeon would not, we think, be justified in using any remedy the nature of which was not known.

A. W. S.—Certainly; or we shall be glad to receive Dr. Jacob's own description of the distoma.

B. L. T.—The grants, like the rest of the profits, should be equally divided.

Fritz should consult his medical attendant.

INCOME-TAX ASSESSMENT.

To the Editors of THE LANCET.

SIRS,—The matter upon which "Marylebone" has written to you is not a very important one, as should insurance premiums not have been deducted from the assessment, the tax thereon can be claimed at any time within three years following the expiration of the year of assessment. But what is important is that where profits for the year ending previously to April 5th, 1891, have not reached the amount of the assessment upon which income-tax was paid, notice should be given at once to the surveyor of taxes so as to enable the taxpayer to obtain relief and refund of tax. The time for making this claim is strictly limited, and the claim can only be made for one year.

We are, Sirs, yours faithfully,

A. CHAPMAN & CO.

Income Tax Repayment Agency, 25, Colville-terrace, London, W.

ARTIFICIAL TEETH FROM A SANITARY POINT OF VIEW.

To the Editors of THE LANCET.

SIRS,—*Apropos* of your article in THE LANCET of Jan. 2nd, allow me to mention that a lotion composed of equal parts of dilute hydrochloric acid and water, applied about once a week with a dental plate brush, is very efficacious as a purifier of false teeth.

I am, Sirs, yours faithfully,

HENRY SUTHERLAND, M.D.

Richmond-terrace, S.W., January, 1892.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

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NEWSPAPERS.—*Shanghai Mercury, Public Opinion, Glasgow Evening Times, Essex Standard, Manchester Guardian, Newcastle Daily Leader West Kent Advertiser, Local Government Chronicle, Glasgow Herald, Dewsbury Chronicle, Hertford Express, Leeds Mercury, Windsor and Eton Gazette, Scotsman, Liverpool Daily Post, Bristol Mercury, Mining Journal, Hertfordshire Mercury, Reading Mercury, Yorkshire Post, West Middlesex Standard, West Middlesex Advertiser, Spectator, Pharmaceutical Journal, City Press, Surrey Advertiser, Architect, Sydney Morning Herald, Insurance Record, Canterbury Times (New Zealand), Windsor and Eton Express, Western Morning News, Roman Herald, Brazilian Republic, Wynberg Times and South African Agriculturist, Herald (London), Preston Guardian, Waterford Standard, Mid Surrey Gazette, North-Eastern Daily Gazette, Halifax Free Press, Western Daily Press, &c.*, have been received.

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